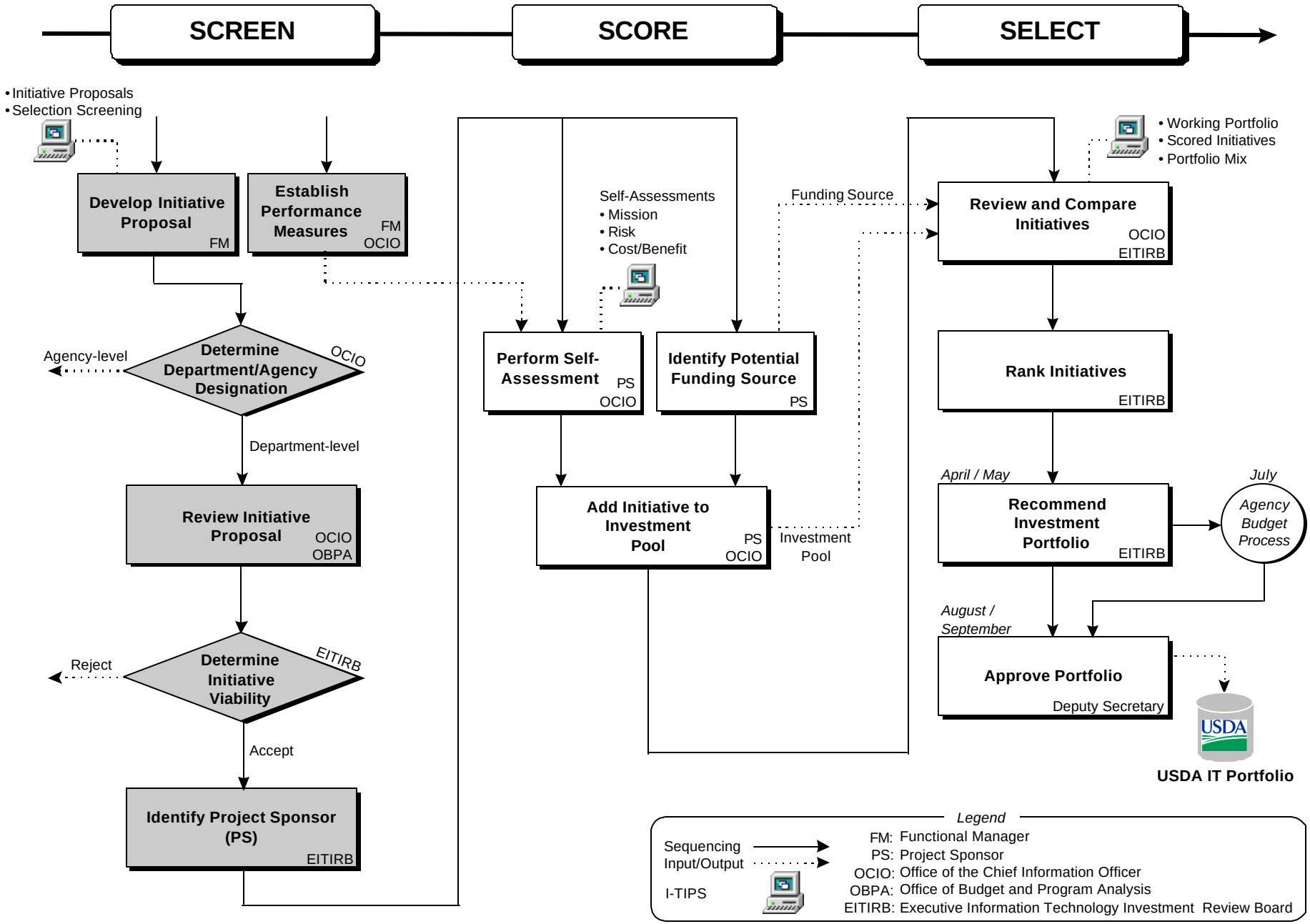
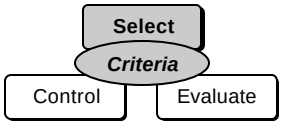
USDA IT Capital Planning and Investment Control Process: *Select Phase*

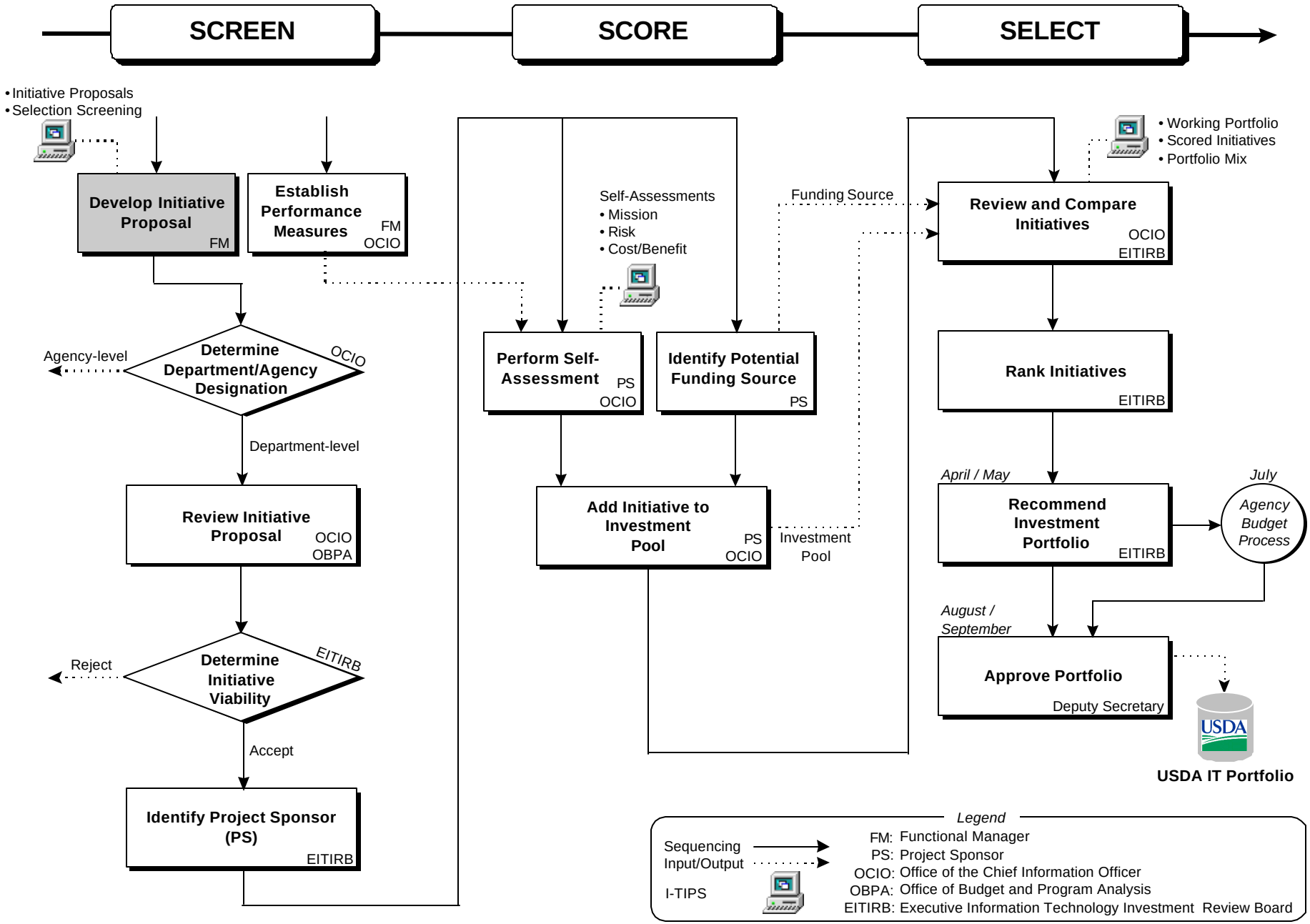


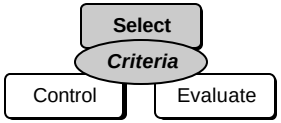
Screen Projects by Applying a "Coarse-Grained" Filter and Conducting a Preliminary Review of Proposed Investments



- IT investments will undergo an initial screening process to identify:
  - Initiative proposals that fail to meet a minimum set of selection criteria
  - The most appropriate organizational level for reviewing the proposal (e.g., Department, agency)
  - The appropriate level of management scrutiny given the type, size, and risk of the IT project
  - Initiatives that duplicate or have undesirable overlaps with other investments
- The information provided by the Functional Manager (FM) during the initial screening is cursory, but enough to identify those initiatives that have no chance of approval (e.g., do not support the mission)
- Investments that pass the filter are categorized as follows:
  - **Development/Modernization/Enhancement:** Includes program costs for new systems, changes or modifications to existing or legacy systems that improve capability or performance, changes mandated by Congress or agency leadership, personnel costs for project management, and direct support
  - **Steady State:** Includes investments such as personnel, maintenance of existing AISs (legacy systems), corrective software maintenance, and replacement of broken IT equipment

USDA IT Capital Planning and Investment Control Process: *Select Phase*



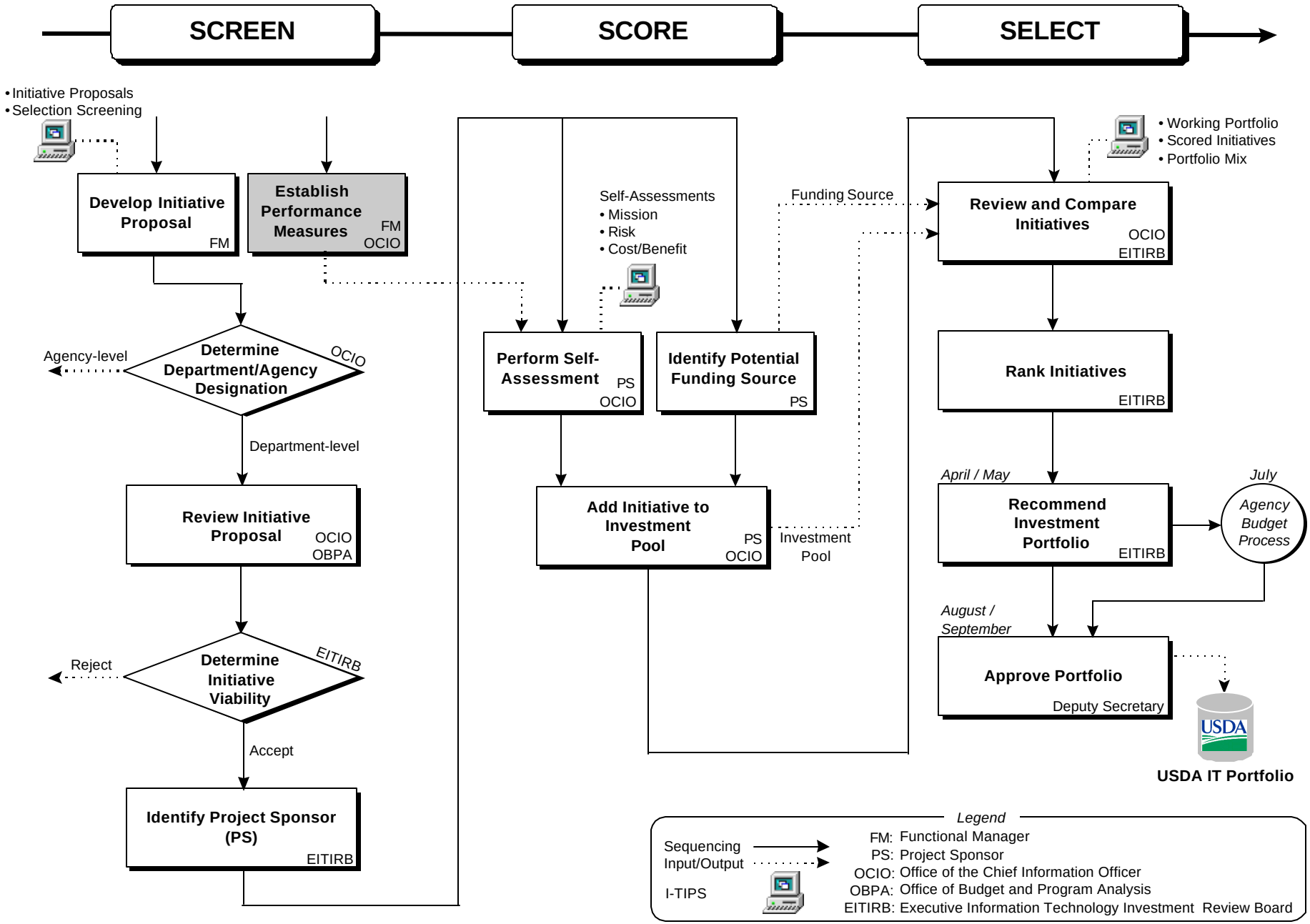


Initiate Proposal to Identify Whether the IT Investment Meets Minimal Criteria

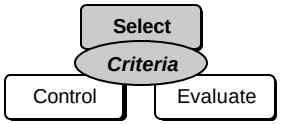
- The FM, assisted by IT personnel, identifies a potential IT investment for their organization
- The FM collects general mission, risk, and benefit/cost information about the initiative and develops a preliminary evaluation of the investment describing how the investment addresses legislative and OMB requirements, including:
  - The initiative supports core/priority mission functions of Department/Agency
  - The initiative is being undertaken because no alternative is available in the private sector
  - The initiative supports work processes that have been simplified or otherwise redesigned
- The evaluation should also contain approximate life-cycle cost and expected return data; at a minimum an initial start-up cost with preliminary life-cycle expenses should be provided

To add an initiative, the FM selects the *Investment Manager* from the left frame. Working within the *Investment Manager*, the FM selects *Add an Initiative* and completes the necessary data entry. The FM then completes the remaining *General Information* subfolders (i.e., *Descriptive Information, Financial Information, Work Breakdown Structure Elements, and Enterprise Information Architecture*) for the new initiative. Once the general initiative information is complete, the FM opens the *Selection Information* folder and the *Selection Screening* subfolder. To add screening information, the FM clicks *Add Screening Information* and completes the screening assessment (i.e., mission performance benefits, viability, and Department/Agency designation). To give additional users or groups the ability to view or screen the new initiative, the FM may click *Permissions*.

USDA IT Capital Planning and Investment Control Process: *Select Phase*

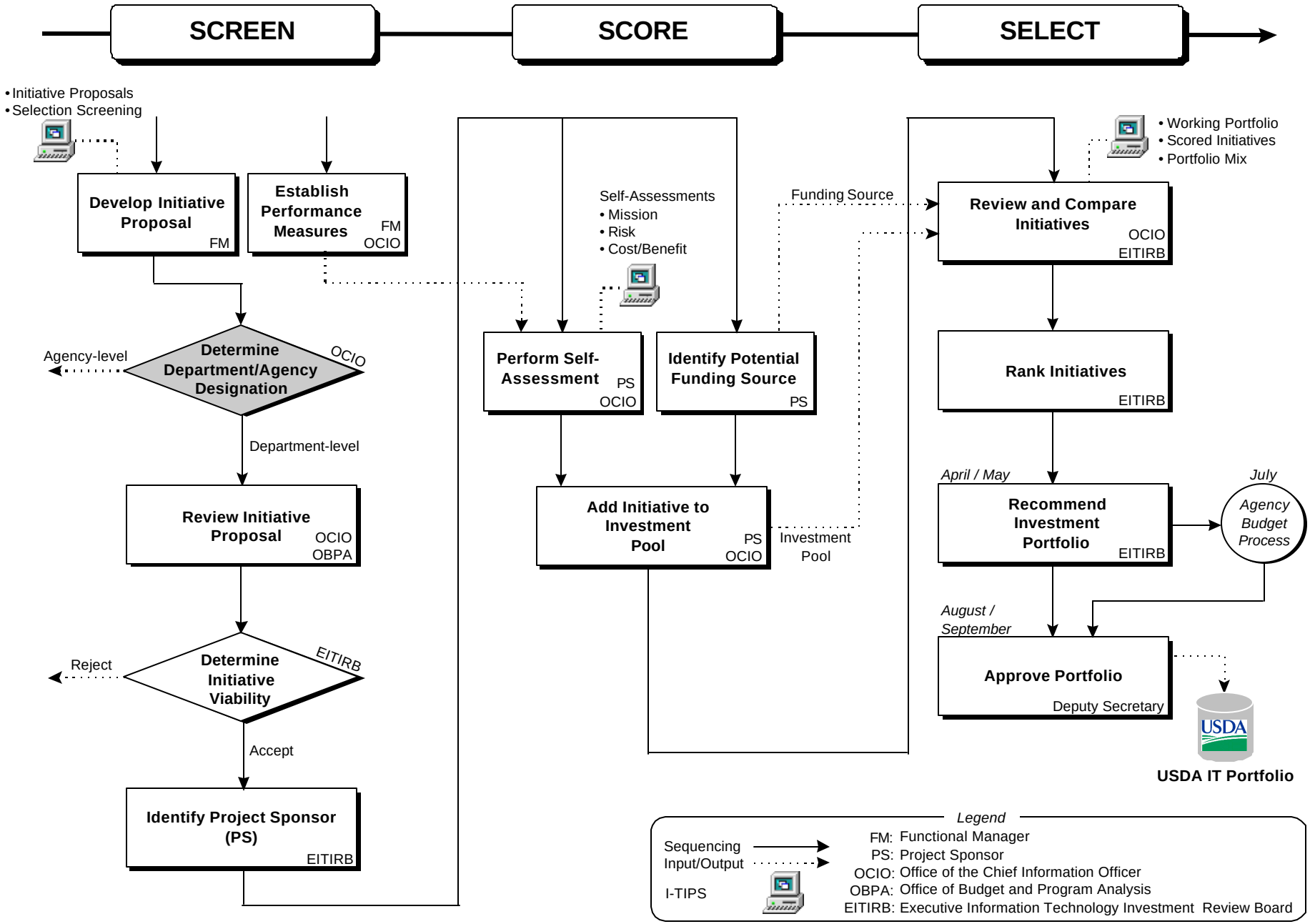


Establish Performance Measures to Identify the Specific Mission Improvements Offered by the Initiative

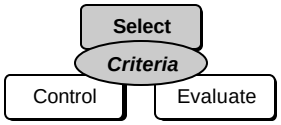


- FMs should examine the goals described in the organization's strategic plan, determining how and to what extent the proposed IT initiatives will contribute to the successful accomplishment of these goals
  - Performance measures should be written in mission contribution or quantitative terms (e.g., number of customers served, staff-hours saved, dollars saved, reduction in errors)
  - Qualitative improvements should also be described in measurable terms (e.g., quality of life, customer satisfaction, user acceptance)
- Technical performance measures also need to be outlined in order to ensure that the project is successfully implemented; technical requirements or IT-specific measures might include such key indicators as data retrieval rates, system availability, or response time
- Performance measures form the basis from which an investment will be judged as successful; this type of accountability facilitates an increased level of managerial discipline for project and program managers, who will have a clear understanding of investment return expectations

USDA IT Capital Planning and Investment Control Process: *Select Phase*



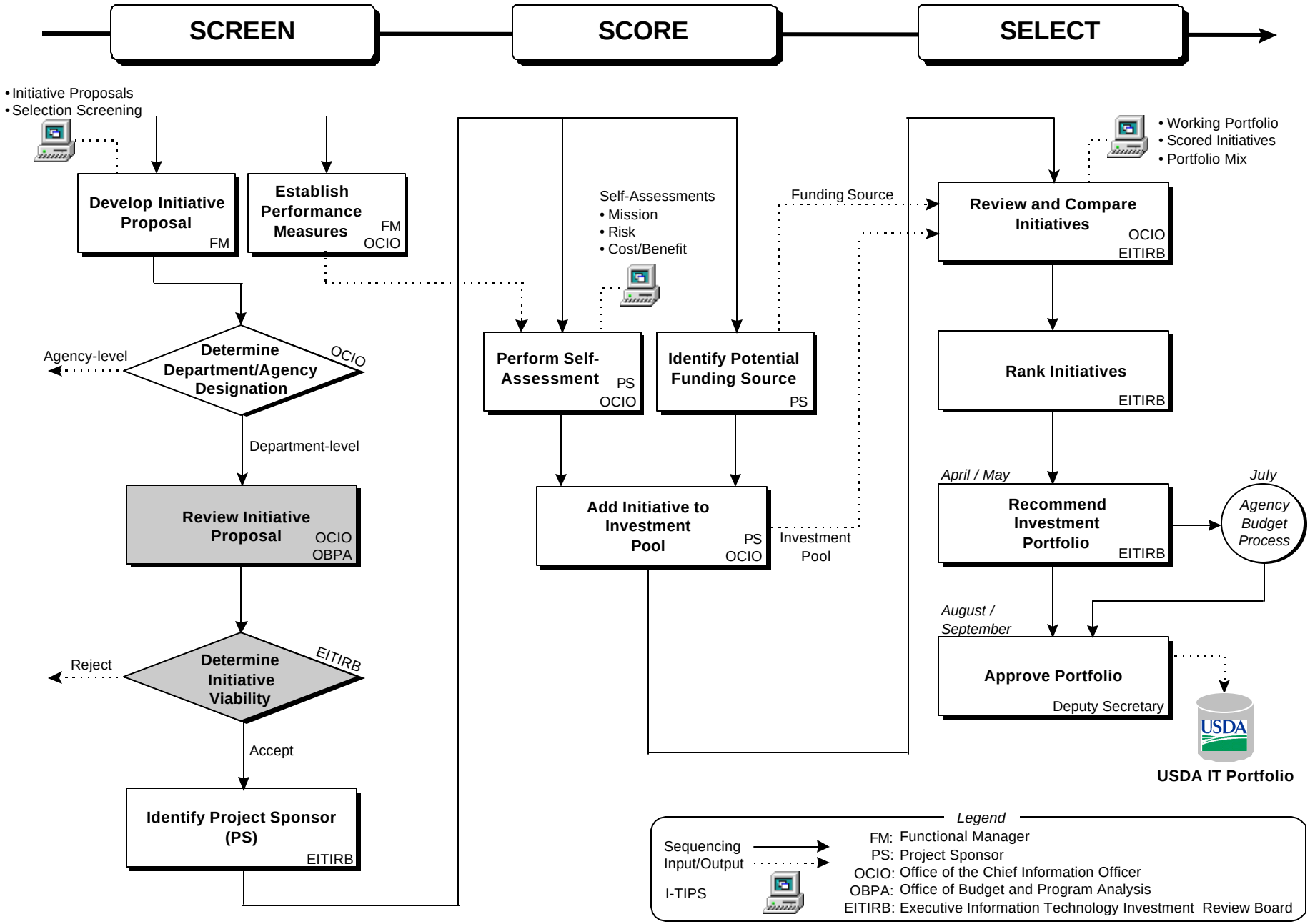
The Initiative is Designated as a Department-Level or Agency-Level Initiative Based on Departmental Guidance



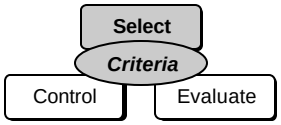
- Once an initiative proposal is developed, Departmental guidance determines the appropriate organization level at which the investment should be reviewed:
  - **Agency:** Initiative cost is less than the current agency-designated threshold (as designated by the former technical approval limits) and the initiative is agency-specific
  - **Department (EITIRB):** Initiative cost is greater than the agency-designated threshold or the initiative is cross-cutting, administrative, or strategic
  - **Department (OCIO):** Initiative is related to infrastructure
- If the initiative does not meet any of the above Department-level criteria, the initiative proposal is moved into the appropriate agency-level capital planning and investment control process

Once the initiative's Department/Agency designation has been determined, the FM opens the *Selection Screening* folder to update the designation information for the initiative. To give the OCIO, EITIRB, or other users/groups the ability to view the information for the new initiative and to continue through the initiative review and screening process, the FM may click *Permissions* within the main initiative folder.

USDA IT Capital Planning and Investment Control Process: *Select Phase*



For Department-Level IT Investments, the OCIO Reviews the Initiative Proposal and the EITIRB Determines the Initiative's Viability

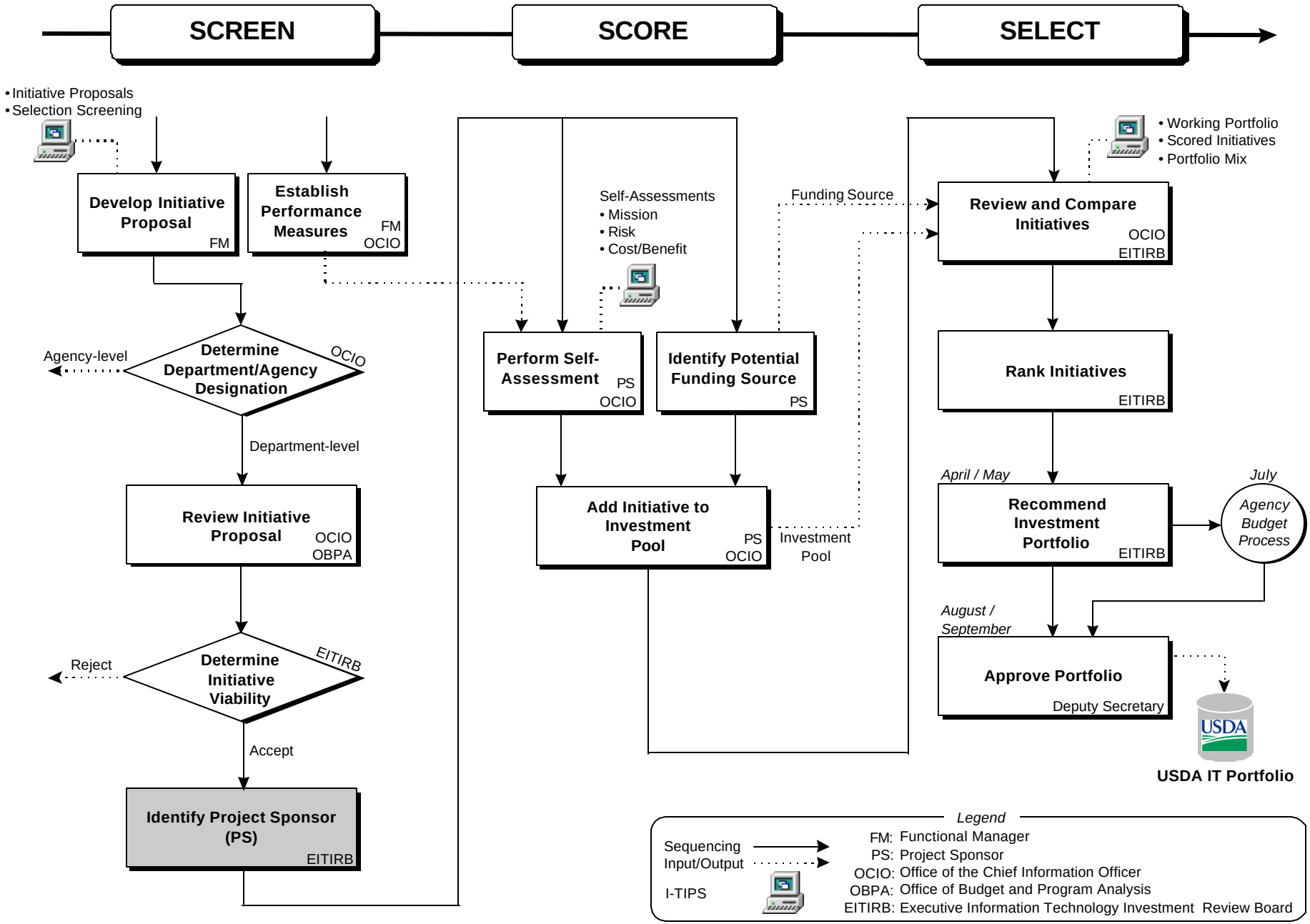


- OCIO reviews the initiative based on its technical feasibility, its adherence to the Department's IT standards and architecture, and its cost
- The FM should coordinate with the OCIO to determine the level of detail required to complete the initiative proposal for presentation to the EITIRB
- At the Department level, the EITIRB reviews initiatives against the Department's strategic, legislative, and budgetary goals
- Using the initiative proposal screening information provided by the FM and the OCIO, the EITIRB reviews the initiative and accepts or rejects the proposal for further consideration
- Proposals rejected from EITIRB consideration should be reevaluated by the FM to assess areas for possible improvement

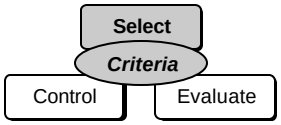
To assess initiative viability, the EITIRB reviews the initiative information entered within the *General Information* and *Selection Screening* folders (the OCIO is responsible for facilitating this process). The board then accepts or rejects the new initiative for further consideration.

Agency-Level Initiatives Would Follow Similar Steps As Defined In the Agency Process

USDA IT Capital Planning and Investment Control Process: *Select Phase*



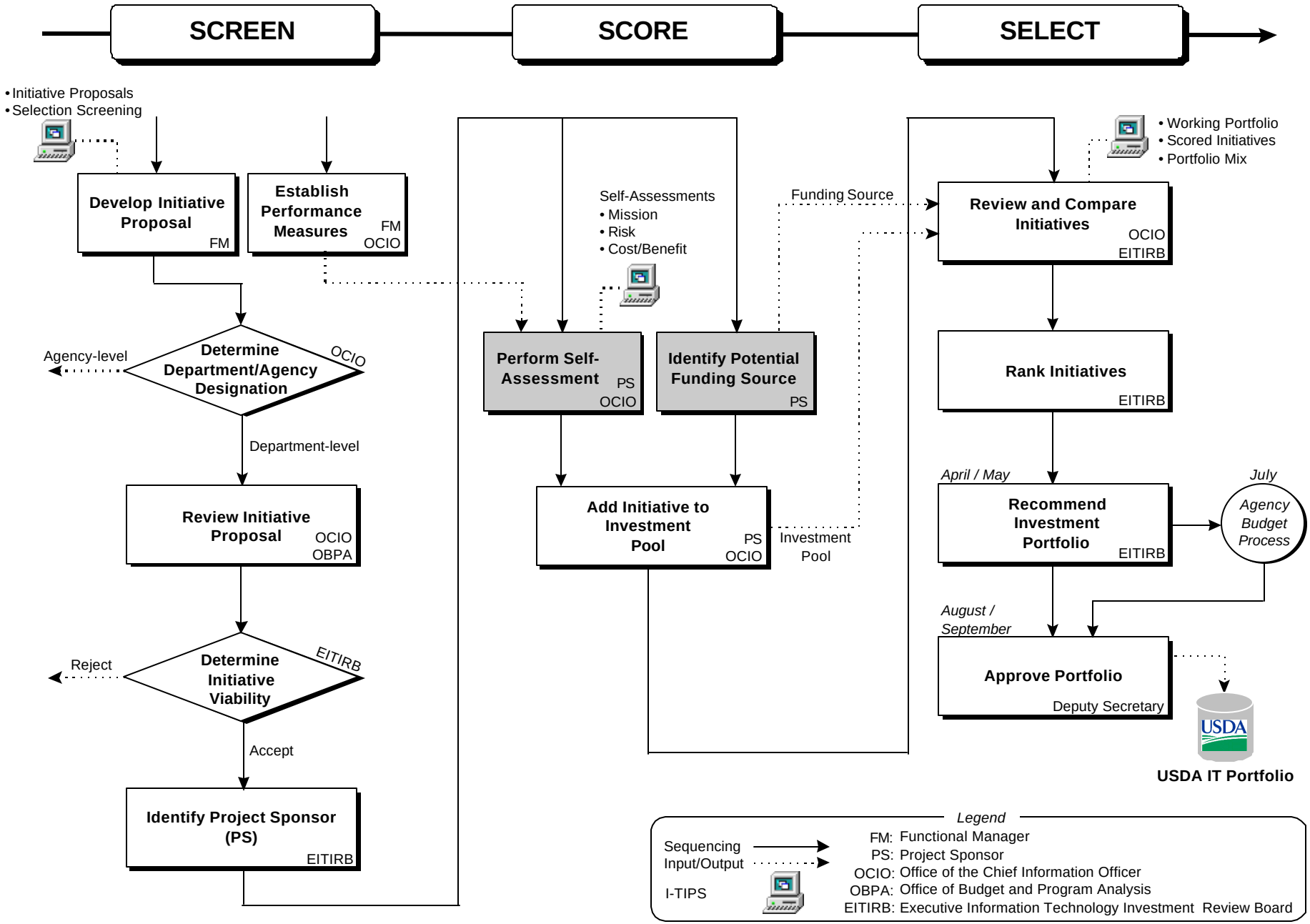
The EITIRB Identifies a Project Sponsor Who Has Authority and Responsibility for the Success of the Initiative



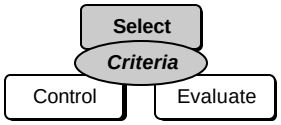
- The EITIRB identifies a Project Sponsor (PS) for each accepted proposal; the PS will typically be the same person as the FM, however, in cases when the initiative is cross-cutting, strategic, or has high visibility the EITIRB may identify a different PS
- The PS is the primary spokesperson and business leader for the initiative and is responsible for the success of the project as it continues through the capital planning process; the PS may choose to select a program manager to conduct the day-to-day project management
- Commercial and government best practices demonstrate that IT investments championed by a functional "business leader" have the greatest chance of success
- The formal acceptance of ownership by a PS represents the commitment of USDA senior management to pursue a significant investment; failure to tie the accountability chain to the highest organizational level weakens the decision-making process and complicates USDA's ability to deliver and manage new investments

If the PS is different than the FM of the initiative, the initiative owner clicks *Transfer Initiative Ownership* within the main initiative folder to transfer the ownership of the initiative to the PS identified by the EITIRB. Throughout the selection process, it is important to maintain a list of initiative points of contact (i.e., Functional Manager, Project Sponsor, Technical Point of Contact, etc.) within the *General Information* folder for the initiative.

USDA IT Capital Planning and Investment Control Process: *Select Phase*



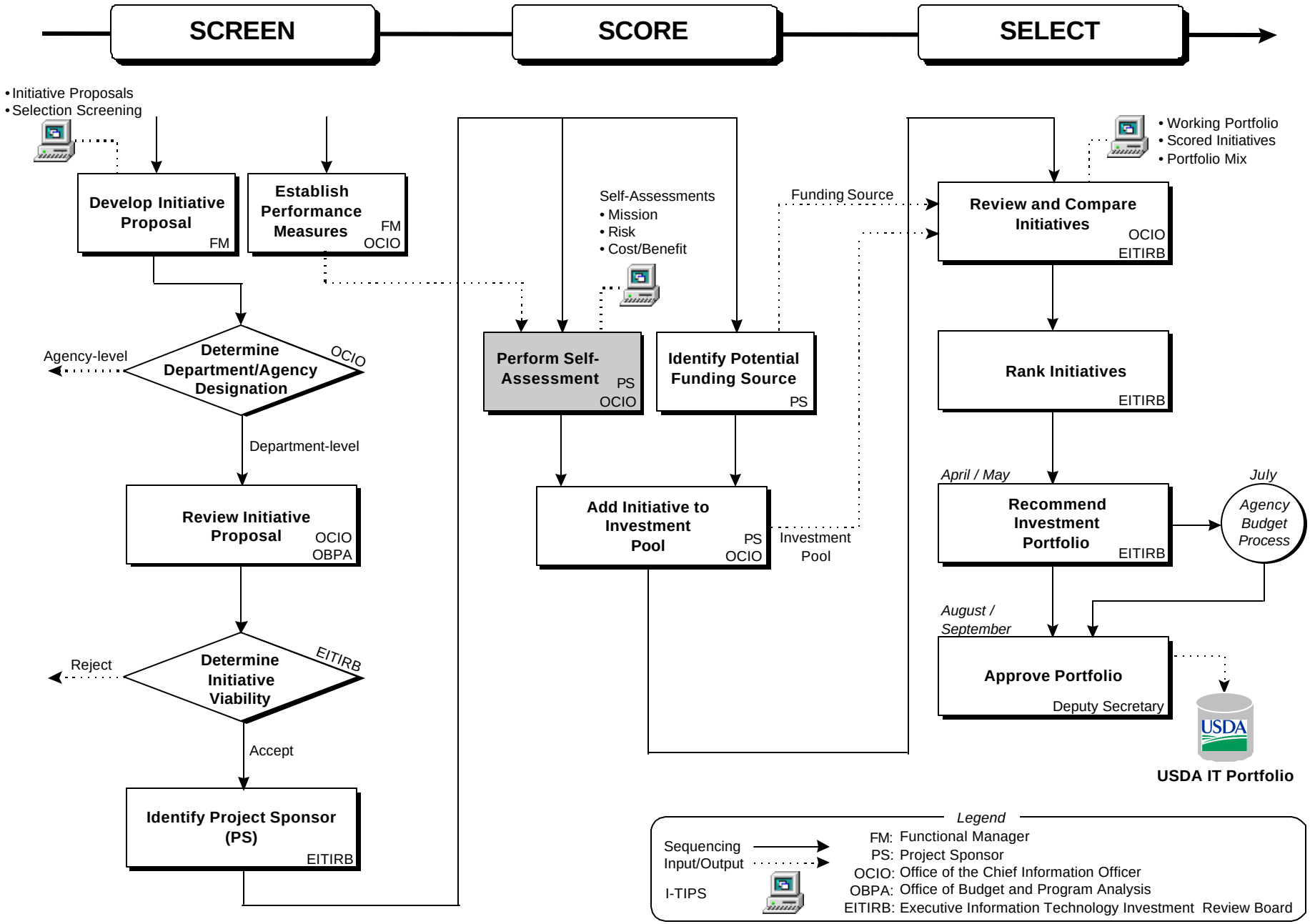
USDA Project Sponsors Identify a Potential Funding Source and Perform an Initiative Self-Assessment Using Standard Decision Criteria and Scoring Rules as an Input for EITIRB Investment Ranking



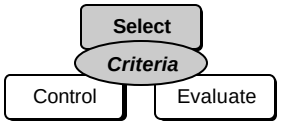
- Project Sponsors must identify a potential funding source in order for the EITIRB to seriously consider the investment for selection into the Department portfolio
- The PS also performs a self-assessment which includes three primary elements:
  - Scoring categories: Mission, Risk, Cost/Benefit
  - Criteria weights: Criteria are weighted, both individually and by category (e.g., mission), as an input to determine an investment's rank among all IT investments
  - Standard scoring rules for each criteria
- Criteria may be added, deleted, or modified, and their weights manipulated as USDA gains experience in applying the criteria and the process is refined over time
- The PS takes responsibility for conducting the self-assessment; a project manager may complete the self-assessment, but the PS remains responsible for approving the assessment and "making the business case" for the investment

To complete the self-assessment for the initiative, the PS opens the *Selection Information* folder and the *Selection Scoring* subfolder for the initiative. Within the *Selection Scoring* folder, the PS clicks *Add Scoring Information* and completes the necessary scoring information (i.e., mission, risk, cost/benefit). To give additional users or groups the ability to view or edit scoring information for the new initiative, the PS may click *Permissions* within the main initiative folder.

USDA IT Capital Planning and Investment Control Process: *Select Phase*



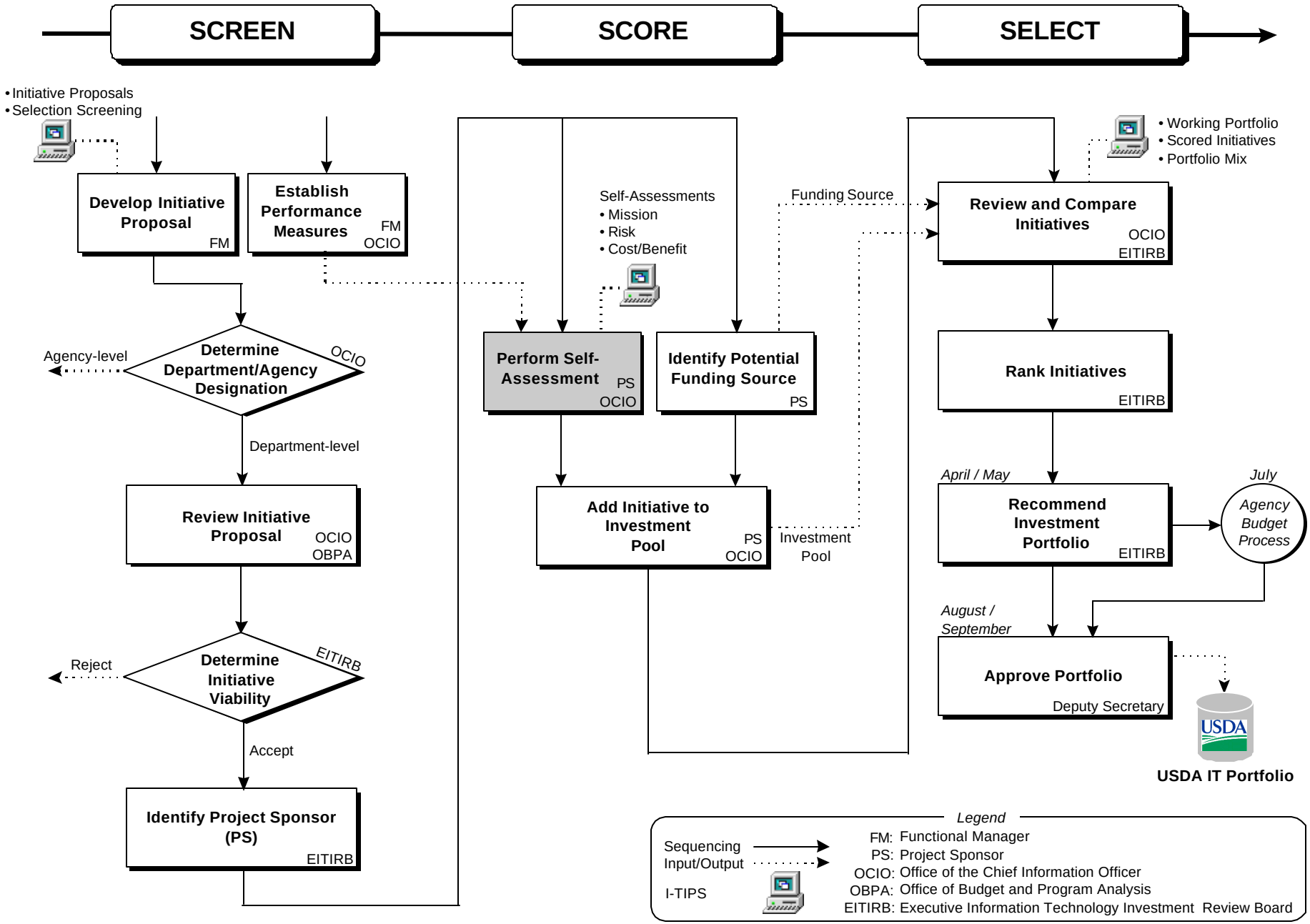
The PS Must Also Seek Input and Get Sign-Off, As Appropriate, From Multiple Offices to Successfully Complete the Self-Assessment



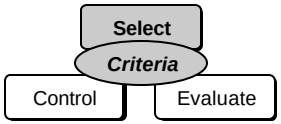
- OCIO if the initiative exceeds the agency-designated threshold
- Office of the Chief Financial Officer if the initiative involves an appropriation, accounting, or financial system
- Office of Procurement and Property Management if the initiative generates an IT acquisition greater than $25 million or $50 million for Office of Operations acquisitions
- Office of General Counsel on solicitation documents in which resultant contract values exceed $500,000; contracting officers are in the best position to determine whether legal advice should be sought during the acquisition process
- Office of Small and Disadvantaged Business Utilization for possible preference contracting possibilities; contracting officers are in the best position to determine the appropriateness of this sign-off
- Office of Budget and Program Analysis for budget inclusion

To allow other groups or users the ability to view or edit scoring information for the initiative, the PS may click *Permissions* within the main initiative folder. The *Discussion Database* feature may be used as a collaborative tool to facilitate the scoring process as other parties become involved in completing the initiative self-assessment.

USDA IT Capital Planning and Investment Control Process: *Select Phase*



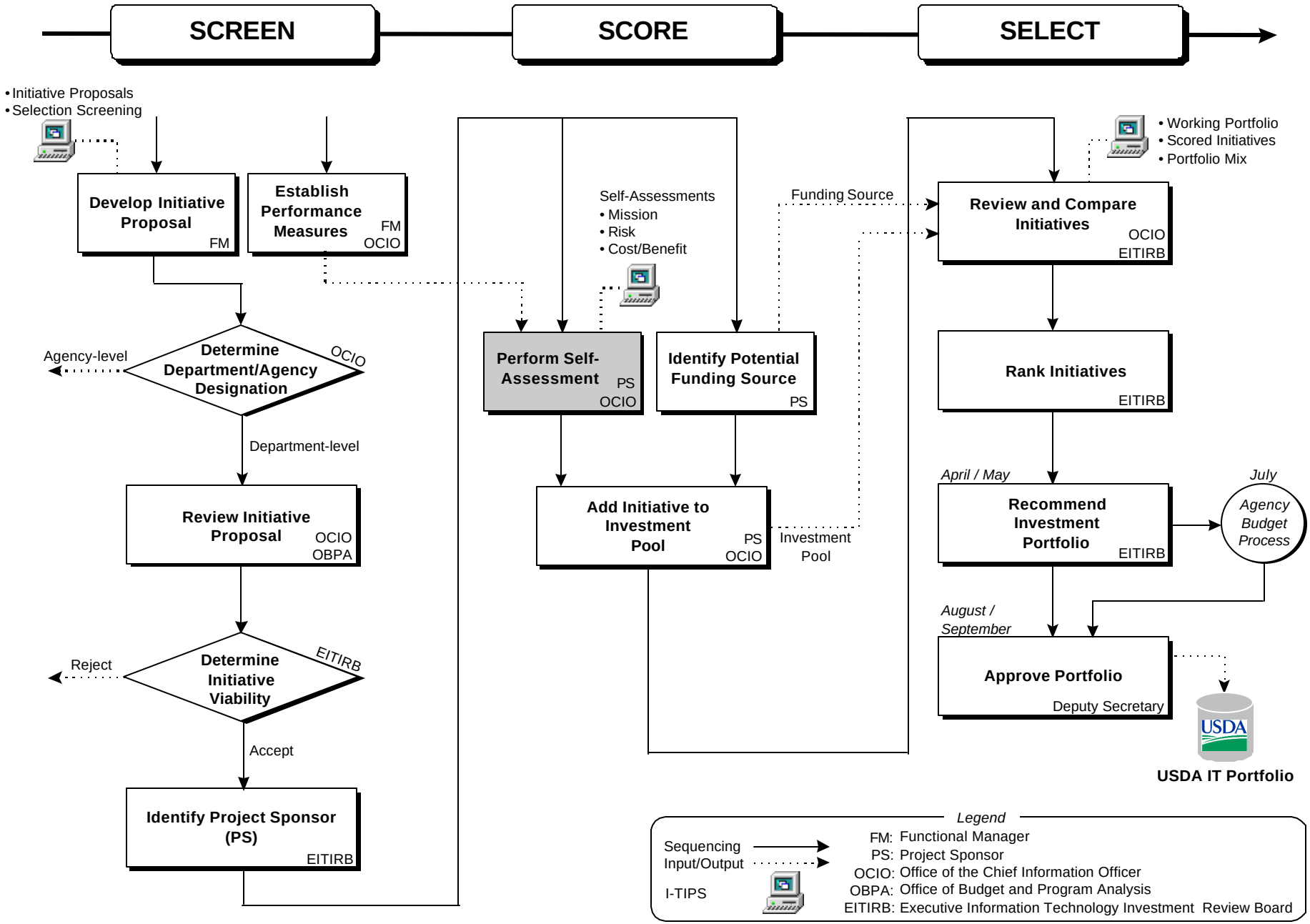
The Process of Performing a Self-Assessment Provides a Framework to Collect the Data and Documentation Needed to Make Good Business Decisions



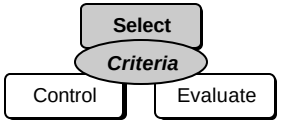
- Research and documentation needs to be completed to reduce IT investment risk
- The process helps to provide a degree of consistency to the way initiatives are documented
- To minimize gaming, the OCIO will spot-check initiatives to verify and validate the documentation that supports the self-assessment score

The *Resource Library* feature should be used to collect and maintain the documents needed to support the initiative self-assessment. To add a file to the initiative documentation set, the user selects *Resource Library* from the left frame and opens the *Documentation Set* folder. Within the *Documentation Set* folder, the user clicks on the document category to be added, and attaches the document or URL.

USDA IT Capital Planning and Investment Control Process: *Select Phase*

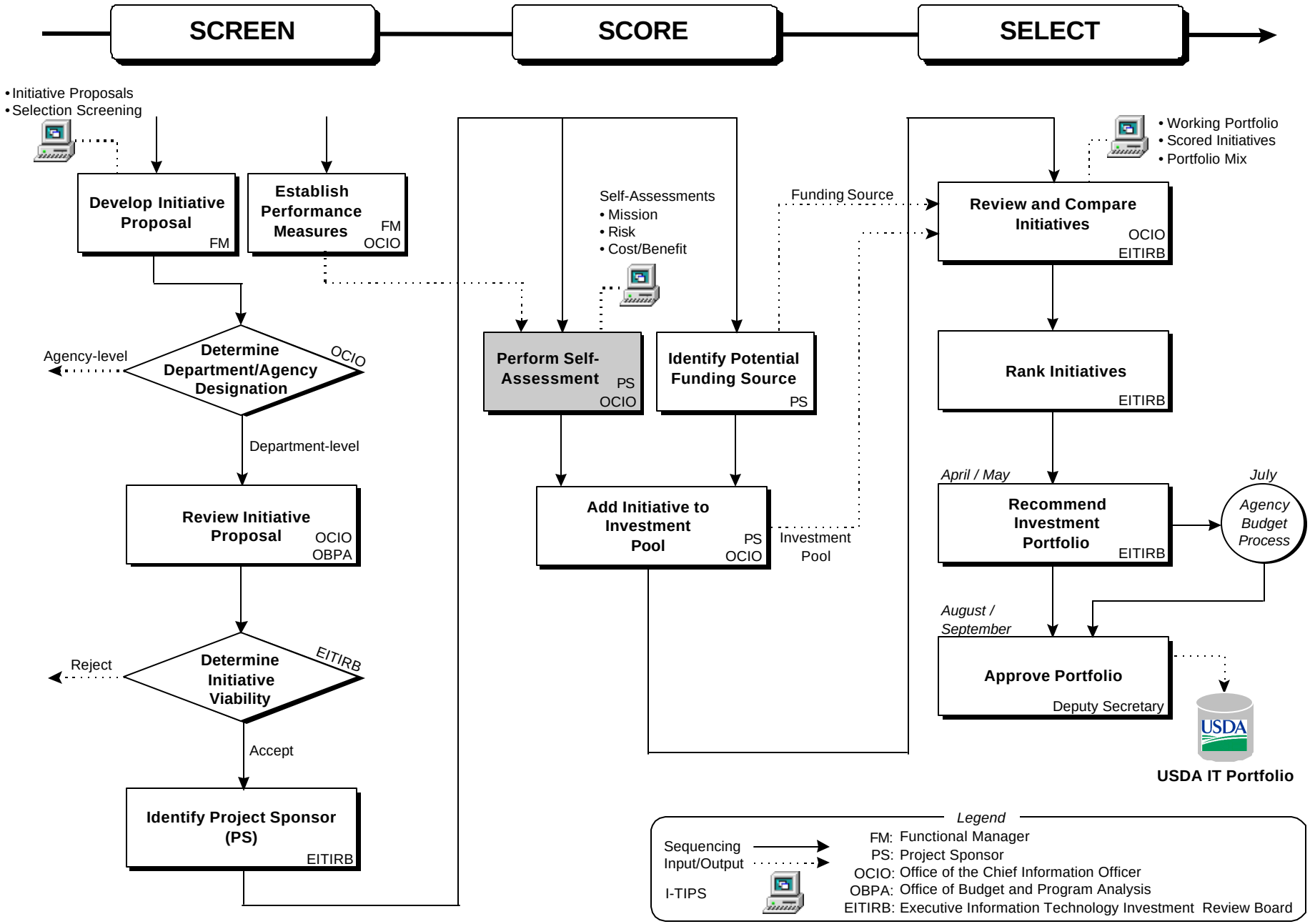


The Project Sponsor is Responsible For Ensuring That the Initiative is Formally Documented and That There is a Direct Correlation Between the Data and the Self-Assessment Scores

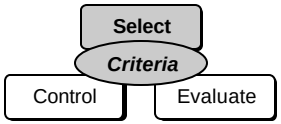


- **Business Profile**
  - Business Case
    - Performance Measures
    - Raines' Rules Analysis
    - Business Process Reengineering (BPR) Activities
  - Functional Requirements
  - Feasibility Study
- **Risk Profile**
  - Risk Assessment and Mitigation Plan
  - Initiative Pilot / Prototype Plans
  - Year 2000 Plan
  - Security Plan
- **Financial Profile**
  - ROI / Cost Benefit Analysis
  - Alternatives Analysis
  - Funding Source Identification
- **Technological Profile**
  - Technical Requirements
  - Design Documentation
  - Relationship to Existing Systems (Dependencies)
  - Data Documentation
  - Software Code Manual
- **Management and Planning Profile**
  - Project Plan
  - Acquisition Plan
  - Independent Verification and Validation Documentation
  - Testing Plan(s)

USDA IT Capital Planning and Investment Control Process: *Select Phase*



Standard Decision Criteria Are Used as One Input to Assist the EITIRB in Comparing and Ranking Competing IT Initiatives

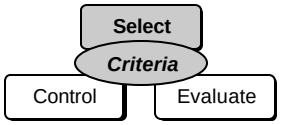


- The standard decision criteria, and their scoring rules and weights, are divided into three areas:
  - **Mission Criteria:** Capture the investment's alignment to strategy and its support for the mission
  - **Risk Criteria:** Address the likelihood that the IT investment will not achieve its outcome due to factors such as people, politics, technology, or complexity
  - **Benefit/Cost Criteria:** Capture the investment's contribution in terms of ROI and qualitative improvement
- The application of the standard criteria provides the EITIRB with an input for drawing comparisons across and ranking IT investments, and to assist the EITIRB in answering the most critical questions in the IT investment decision making process: "How strong is the business case?" and "Has the business case been made
- Legacy systems will be scored using the same criteria as ongoing and new initiatives; often legacy systems will be strong in areas different than very risky, leading edge initiatives

Mission Criteria

CRITERIA		Wt	Scoring Rules -1	0	1	2
MISSION	**Scoring Responsibility**	**3**				
Mandatory Investment	Project Sponsor, General Counsel	3		• IT investment not mandatory	• IT investment inferred by or strongly suggested in law, regulation	• IT investment specifically required by law, regulation
Validation of Functions	Project Sponsor/Program Manager	1	• The Project Sponsor has not validated the need for USDA to perform the function	• The Project Sponsor has validated the need for USDA to perform the function	• The Project Sponsor has validated the need for USDA to perform the function -AND- • The Project Sponsor has determined whether the function should be performed directly by the USDA Mission Area or should be contracted out with USDA oversight	
Pre-Investment BPR Conducted in Supported Functions/Organization	Project Sponsor/Program Managers, OCIO, Cross-organizational representatives	3	• BPR has not been completed for one or more functions the investment will directly support -OR- • The completed BPR did not address the entire user community affected by the investment	• The Project Sponsor has demonstrated that conducting a BPR for the function to be supported is not a prerequisite to an IT investment	• BPR has been completed for all relevant functions and across the entire user community	
Mission Support/ Alignment to Strategic Goal(s)	Project Sponsor/ Program Managers	3	• The investment is not aligned to a USDA, mission area, agency, or IT strategic goal	• The investment is aligned to a USDA, mission area, agency, or IT strategic goal	• The investment is a primary element in achieving a USDA, mission area, agency, or IT strategic goal, and there is strong rationale for this link	• The case is strong and compelling that the investment provides integral, essential support to 2 or more strategic goals
Cross-Functional/ Organizational Impact	ProjectSponsor/ Program Managers, OCIO	1	• The functions to be supported are not clearly stated -OR- • The areas affected by the investment cannot support it	• The investment supports a single USDA function -AND- • The user community is clearly defined in size and scope	• The investment supports multiple USDA functions -AND- • The user community is clearly defined in size and scope	
Functional Performance Measures/Investment Performance Targets	Project Sponsor, Agency Head, Office of the Secretary, Congress	3	• Specific GPRA performance measures for supported functions are unknown or not formally published -OR- • Performance targets for the investment are not published	• Specific GPRA performance measures for some supported functions are formally published -AND- • Specific performance targets for the investment are defined in terms of measures for the supported functions	• Specific GPRA performance measures for all supported functions are formally published -AND- • Specific performance targets for the investment are defined in terms of supported functions measures	• Specific GPRA performance measures for all supported functions are formally published -AND- • Specific performance targets for the investment are defined in terms of supported functions measures (including time frames and PIRs) and are clearly linked to GPRA measures in “cause-effect” relationship

Mission Criteria Capture the Investment's Alignment to Strategy and Its Support of the Mission



- **Mandatory Investment:** Determine if the proposed investment is mandated by legislative requirement or is strongly recommended by law or regulation. Clarification may be offered by the USDA General Counsel. Specific mandates will be assigned a higher priority. Sponsors should be able to clearly cite the legislation supporting the classification.

- **Validation of Functions:** Before investing in IT, the specific functions to be supported by the investment need to be validated. OMB requires agencies to ask *"Does the investment need to be undertaken by the requesting agency because no alternative private sector or governmental source can better support the function?"* Where a Senior Executive within the Department has validated USDA's need to perform a function - as opposed to being discontinued or outsourced in total - a much stronger case for an IT investment can be made.

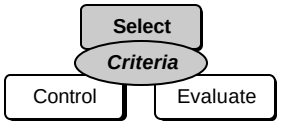
- **Pre-Investment BPR Conducted in Supported Functions/Organization:** Following a validation of functions, the business processes currently required to complete the functions should be reengineered to ensure they are efficient and integrated with related processes, or, at a minimum, the Project Sponsor should determine that pre-investment reengineering is unwarranted. This type of scrutiny is consistent with the OMB requirement: *"Does the investment support work processes that have been simplified or otherwise redesigned to reduce costs, improve effectiveness, and make maximum use of commercial, off-the-shelf technology?"*

The FM and PS must complete mission-related information for the initiative within the appropriate initiative folders (i.e., *Descriptive Information, Work Breakdown Structure, Selection Screening*). Mission scoring criteria and rules are available on-line.

Mission Criteria

CRITERIA		Wt	Scoring Rules -1	0	1	2
MISSION	**Scoring Responsibility**	**3**				
Mandatory Investment	Project Sponsor, General Counsel	3		• IT investment not mandatory	• IT investment inferred by or strongly suggested in law, regulation	• IT investment specifically required by law, regulation
Validation of Functions	Project Sponsor/Program Manager	1	• The Project Sponsor has not validated the need for USDA to perform the function	• The Project Sponsor has validated the need for USDA to perform the function	• The Project Sponsor has validated the need for USDA to perform the function -AND- • The Project Sponsor has determined whether the function should be performed directly by the USDA Mission Area or should be contracted out with USDA oversight	
Pre-Investment BPR Conducted in Supported Functions/Organization	Project Sponsor/Program Managers, OCIO, Cross-organizational representatives	3	• BPR has not been completed for one or more functions the investment will directly support -OR- • The completed BPR did not address the entire user community affected by the investment	• The Project Sponsor has demonstrated that conducting a BPR for the function to be supported is not a prerequisite to an IT investment	• BPR has been completed for all relevant functions and across the entire user community	
Mission Support/ Alignment to Strategic Goal(s)	Project Sponsor/ Program Managers	3	• The investment is not aligned to a USDA, mission area, agency, or IT strategic goal	• The investment is aligned to a USDA, mission area, agency, or IT strategic goal	• The investment is a primary element in achieving a USDA, mission area, agency, or IT strategic goal, and there is strong rationale for this link	• The case is strong and compelling that the investment provides integral, essential support to 2 or more strategic goals
Cross-Functional/ Organizational Impact	Project Sponsor/ Program Managers, OCIO	1	• The functions to be supported are not clearly stated -OR- • The areas affected by the investment cannot support it	• The investment supports a single USDA function -AND- • The user community is clearly defined in size and scope	• The investment supports multiple USDA functions -AND- • The user community is clearly defined in size and scope	
Functional Performance Measures/Investment Performance Targets	Project Sponsor, Agency Head, Office of the Secretary, Congress	3	• Specific GPRA performance measures for supported functions are unknown or not formally published -OR- • Performance targets for the investment are not published	• Specific GPRA performance measures for some supported functions are formally published -AND- • Specific performance targets for the investment are defined in terms of measures for the supported functions	• Specific GPRA performance measures for all supported functions are formally published -AND- • Specific performance targets for the investment are defined in terms of supported functions measures	• Specific GPRA performance measures for all supported functions are formally published -AND- • Specific performance targets for the investment are defined in terms of supported functions measures (including time frames and PIRs) and are clearly linked to GPRA measures in “cause-effect” relationship

Mission Criteria Capture the Investment's Alignment to Strategy and Its Support of the Mission (continued)



- **Mission Support and Alignment to Strategic Goals:** Identify the degree to which an investment is directly linked to the organization's mission or strategic priorities. This linkage should be articulated in terms of the essential benefits provided by the investment. The stronger the linkage, the stronger the business case for an IT investment. The USDA Strategic Plan, and the OCIO's Strategic plan should serve as a baseline for identifying these links. The highest ratings in this area are reserved for those IT investments that demonstrate significant support for multiple mission areas and goals.

- **Cross-Functional/Organizational Impact:** An investment that will support multiple USDA or agency business functions can help to integrate processes across agencies and mission areas. Infrastructure investments that offer such benefits provide maximum opportunities for cost-savings and standardization, leading to greater efficiencies throughout USDA.

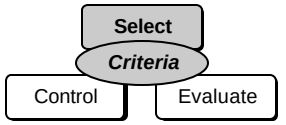
- **Functional Performance Measures/Investment Performance Targets:** Clearly defined performance expectations provide managers with specific criteria to evaluate investment success. Where such expectations do not exist or are ill-defined, an ineffective business case emerges. Performance targets enable a clean linkage to business functions and organizational goals. The likelihood of outcomes differing from expectations is minimized when the desired outcomes are stated specifically up front. "What gets measured gets done." The existence of easily understood performance measures greatly strengthens the business case for an IT investment. (*Note: See page II-3 for further discussion of performance measures.*)

Risk Criteria

CRITERIA		Wt	Scoring Rules -1	0	1	2
RISK	**Scoring Responsibility**	**2**				
Developer Track Record	Project Sponsor, OCIO	3	• Developer has failed to deliver major investment in the past 3 years -OR- • Developer has failed to meet cost, schedule, or performance expectations for an investment in the past 3 years -OR- • Development responsibilities are unclear	• Developer has delivered a minor investment (e.g., below USDA EITIRB threshold) in the past 3 years -OR- • The system is a legacy system	• Developer has no record of failures, delays, or quality problems with major IT investments in the past 3 years -AND- • Development responsibilities are clear (USDA /contractor roles understood)	
Endorsement/ Ownership of Investment by Project Sponsor and User Community	Project Sponsor	3	• The functional manager has not endorsed the investment -OR- • It is evident that the user community does not support the need for an investment	• The functional manager has endorsed the investment -AND- • Only limited evidence exists that the user community supports the investment -AND- • The investment has been fully funded previously or offsets have been identified	• Evidence exists that all components in the user community support the investment -AND- • Functional requirements for the investment have been baselined -AND- • Tangible evidence exists that the user community—across all relevant functions and components—supports baselined requirements (e.g. user surveys)	• Evidence indicates that components in user community support the investment -AND- • Functional requirements for the investment have been baselined -AND- • Evidence indicates that the user community—across all relevant functions and components—supports baselined requirements -AND- • Investment PM reports directly to Project Sponsor
Dependency on Other Investments	Program Manager, OCIO	2	• The investment's impact depends significantly on another investment still needing completion	• The investment's impact does not depend significantly on any other investment still needing completion	• The investment is oriented toward a single function/set of functions that can operate alone for the most part (no major interfaces)	
Pre-IOC Risk Mitigation Actions • Development of Pilots/Prototypes • Incremental/Modular Development Approach • COTS/Custom Mix in Solution	Project Sponsor/ Program Manager, SIRMO, OCIO	2	• Plans for prototype/pilot are not known -OR- • System architecture and high-level design are not documented; no increments or modules have been defined -OR- • The known or published design contains non-COTS hardware	• Prototype/pilot is planned, but objectives are not yet known -AND- • Elements needed for an incremental, modular approach have been completed: architecture and high-level design, system interfaces, underlying COTS hardware platform and OS are known -AND- • Custom-developed application-level software is > 30% of total application-	• Prototype/pilot was used to mitigate concerns about the system's operational feasibility, technical integration risks, and scalability -AND- • A phased approach for developing and deploying the system has been published -AND- • Phases contain functional increments or modular system components that could remain in use if investment were canceled; system interfaces are clearly designed -AND- • Custom-developed application-level	

				level software -OR- • Legacy system is developed and criteria does not apply	software is < 30% of total application-level software	

Risk Criteria Address the Probability That the Investment Will Not Achieve Its Outcome Because of Other Factors ¾ People, Politics, Technology, or Complexity



- **Developer Track Record:** "Developer" in this context is defined as the overall combination of USDA and contractor staff that manage the investment, act as systems integrators or software developers, or provide key commercial off-the-shelf (COTS) components. Risk increases with weak developer track records or inexperience in similar technologies both in scale and scope. While past performance is not a guarantee of future success, a strong developer track record minimizes a significant portion of associated risks.

- **Endorsement/Ownership of Investment by Project Sponsor and User Community:** The degree to which the project sponsor and user community take ownership for and agree to the requirements of an investment reduces the likelihood of requirements creep and the risk of ineffective configuration management. *Is there a project sponsor? How strongly does senior leadership endorse the effort?*

- **Dependency on Other Investments:** When one investment depends wholly or significantly on another, total risk is compounded for the dependent investment. Recognizing that many IT investments will be dependent on other systems, an evaluation should be conducted to identify all dependencies. The positive synergy anticipated from the combination of dependent IT systems should not be avoided, but rather an integrated management plan and contingency plan must be in place for each of the involved systems.

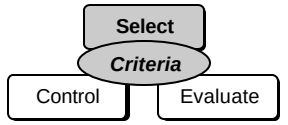
The FM and PS must complete risk-related information for the initiative within the appropriate initiative folders *(*i.e., *Descriptive Information, Work Breakdown Structure, Enterprise Information Architecture, Selection Screening*). Risk scoring criteria and rules are available on-line.

Risk Criteria

CRITERIA		Wt	Scoring Rules -1	0	1	2
RISK	**Scoring Responsibility**	**2**				
Developer Track Record	Project Sponsor, OCIO	3	• Developer has failed to deliver major investment in the past 3 years -OR- • Developer has failed to meet cost, schedule, or performance expectations for an investment in the past 3 years -OR- • Development responsibilities are unclear	• Developer has delivered a minor investment (e.g., below USDA EITIRB threshold) in the past 3 years -OR- • The system is a legacy system	• Developer has no record of failures, delays, or quality problems with major IT investments in the past 3 years -AND- • Development responsibilities are clear (USDA /contractor roles understood)	
Endorsement/ Ownership of Investment by Project Sponsor and User Community	Project Sponsor	3	• The functional manager has not endorsed the investment -OR- • It is evident that the user community does not support the need for an investment	• The functional manager has endorsed the investment -AND- • Only limited evidence exists that the user community supports the investment -AND- • The investment has been fully funded previously or offsets have been identified	• Evidence exists that all components in the user community support the investment -AND- • Functional requirements for the investment have been baselined -AND- • Tangible evidence exists that the user community—across all relevant functions and components—supports baselined requirements (e.g. user surveys)	• Evidence indicates that components in user community support the investment -AND- • Functional requirements for the investment have been baselined -AND- • Evidence indicates that the user community—across all relevant functions and components—supports baselined requirements -AND- • Investment PM reports directly to Project Sponsor
Dependency on Other Investments	Program Manager, OCIO	2	• The investment's impact depends significantly on another investment still needing completion	• The investment's impact does not depend significantly on any other investment still needing completion	• The investment is oriented toward a single function/set of functions that can operate alone for the most part (no major interfaces)	
Pre-IOC Risk Mitigation Actions • Development of Pilots/Prototypes • Incremental/Modular Development Approach • COTS/Custom Mix in Solution	Project Sponsor/ Program Manager, SIRMO, OCIO	2	• Plans for prototype/pilot are not known -OR- • System architecture and high-level design are not documented; no increments or modules have been defined -OR- • The known or published design contains non-COTS hardware	• Prototype/pilot is planned, but objectives are not yet known -AND- • Elements needed for an incremental, modular approach have been completed: architecture and high-level design, system interfaces, underlying COTS hardware platform and OS are known -AND- • Custom-developed application-level software is > 30% of total application-	• Prototype/pilot was used to mitigate concerns about the system's operational feasibility, technical integration risks, and scalability -AND- • A phased approach for developing and deploying the system has been published -AND- • Phases contain functional increments or modular system components that could remain in use if investment were canceled; system interfaces are clearly designed -AND- • Custom-developed application-level	

				level software -OR- • Legacy system is developed and criteria does not apply	software is < 30% of total application-level software	

Pre-IOC Risk Mitigation Actions Can Reduce Significant Obstacles to Successful IT Investment



- **Pre-IOC Risk Mitigation:** Developers and investment sponsors can, to a great degree, predict or simulate how technology will integrate, how systems will precisely fit into any given operational environment, or how a design will scale to a full-size user community, however, there can be many unknowns associated with each project. These unknowns can be minimized through a carefully designed risk mitigation plan. Such a plan would include a program for:

  - **Prototyping and Piloting the Proposed Investment:** The strongest risk mitigation plans will have clear testing objectives. A sound plan to conduct a prototype or pilot that tests operational feasibility, technical risks, and scalability can significantly strengthen the case for the investment.

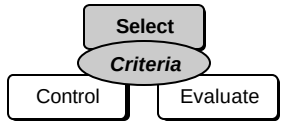
  - **Incremental/Modular Development Approach:** Developing and deploying IT initiatives in functional increments or modular subsystems reduces the risk of failure or loss from a canceled investment. With this approach each increment or subsystem can have residual value, and the overall development and fielding can be somewhat simpler.

  - **COTS/Custom Mix in Solution:** All new initiatives requiring system development present a certain degree of risk. However, those initiatives or investments that are based on COTS solutions reduce risk by introducing products that have been, in most cases, thoroughly tested. The degree to which a solution can be fit to an existing COTS product, without significantly deviating from requirements, can minimize the risks associated with new developments. Another aspect of risk mitigation worth considering is the number of vendors involved in any new initiative. Managerial and technical risks are likely to increase with greater numbers of individual vendors required to complete an investment.

Risk Criteria

CRITERIA		Wt	Scoring Rules -1	0	1	2
RISK (Continued)	**Scoring Responsibility**	**2**				
Flexible Acquisition Approach	Program Manager, Procurement, OCIO, General Counsel	2	• Acquisition strategy is unknown or unpublished -OR- • Acquisition strategy is known, but will not deliver 1 or more increments or modules in < 180 days -OR- • Acquisition strategy makes no use of GWACs to acquire COTS hardware and software	• Acquisition strategy supports the development approach -AND- • Acquisition strategy makes some use of GWACs to acquire COTS hardware and software -OR- • Legacy system acquisition is complete	• Acquisition strategy supports the development approach -AND- • Acquisition strategy describes how modules or functional increments will each be fielded in < 180 days -AND- • The acquisition strategy makes maximum use of GWACs to acquire COTS hardware and software	
Adherence to USDA IT Architecture/Standards/ Security/Y2K	Program Manager, SIRMO,OCIO	2	• 1 or more system external interfaces are undefined -OR- • Underlying platform (hardware, OS) is not known -OR- • Y2K issues have not been addressed or resolved -OR- • The security concept has not been developed or incorporated into the system design	• The architecture/high-level design and external interfaces are compliant with USDA architecture -AND- • Y2K issues have been addressed and resolved -AND- • The security concept has been incorporated into the system design, employs COTS products, and does not have MLS requirements	• The architecture/high-level design; external interfaces; underlying platform (hardware, OS) adheres to USDA architecture -AND- • The security concept has been incorporated into the system design -AND- • The system design employs all COTS products -AND- • The system does not have MLS requirements	

Using a Flexible Acquisition Approach and Adhering to USDA IT Architecture Standards Further Diminish Potential Investment Risk



- **Flexible Acquisition Approach:** Risk is reduced to the extent that components or subsystems can be acquired quickly, existing GWACs can be used, and the overall acquisition can be broken down into smaller, more manageable, and mutually supportive acquisitions.

- **Adherence to USDA Architecture, Technical Standards, Security Requirements, and Y2K Compliance:**

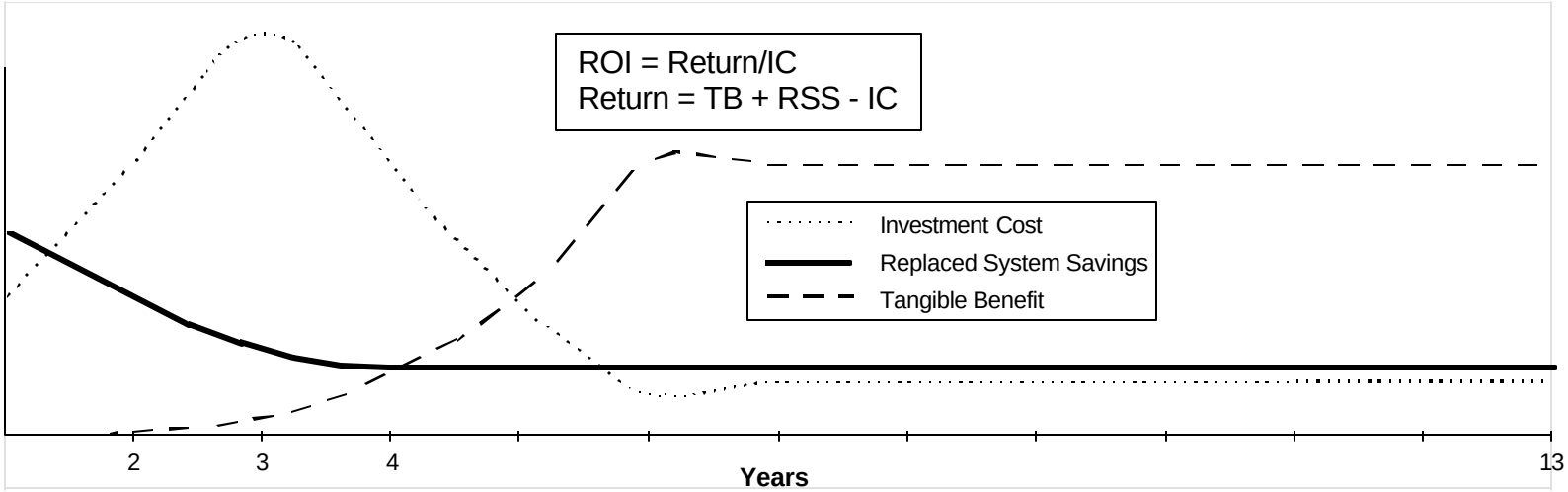
  - **Technical Integration Risk:** Adherence to and compatibility with existing and planned architectures significantly reduces technical integration risk. The smaller and more precise the subset of USDA standards that an investment design follows, the greater the mitigation of risk.

  - **Security Risk:** System security represents a significant source of operational risks to both proposed and new investments. For new investments, these risks can be reduced by introducing sound security concepts and requirements at the earliest possible point of system planning and design. Proposed investments that demonstrate such a security plan should be scored higher than those without a developed and tested security approach.

  - **Y2K Compliance:** Systems must address and resolve Y2K issues. Systems that do not address Y2K should, in most cases, not be funded.

Cost/Benefit Criteria

CRITERIA		Wt	Scoring Rules -1	0	1	2
COST/BENEFIT	**Scoring Responsibility**	**2**				
ROI (Return on Investment Ratio)	Project Sponsor	3	• ROI < 2	• ROI > 2	• ROI > 4	• ROI > 6
ROI (Recovery Schedule/Payback Period)	Project Sponsor/ Program Manager	3	• The ROI (Return on Investment Ratio) occurs more than 4 years after fielding initial module or functional increment	• The ROI (Return on Investment Ratio) occurs within 4 years of fielding initial module or functional increment	• The ROI (Return on Investment Ratio) occurs within 3 years of fielding initial module or functional increment	• The ROI (Return on Investment Ratio) occurs within 2 years of fielding initial module or functional increment
ROI (Intangible)	Project Sponsor/ Program Manager, SIRMO, OCIO	2		• Some intangible returns exist, but they are not significant	• Intangible returns have significant impact on mission performance	

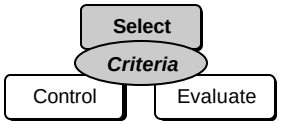


Tangible Benefit (TB):
Estimated tangible, cost-based savings for a 10-year system life—include effects of transition such as phase-in and post-training learning curve leading to lower cost savings in initial years

Replaced System Savings (RSS):
The operations and maintenance costs avoided when an existing system is replaced, calculated from the old system's phase-out through the remainder of the investment system's 10-year life

Investment Cost (IC):
All costs associated with investment including development of new system, switch-over, and phase-out of existing system(s)—includes O&M of new system through 10-year life

Cost/Benefit Criteria Capture the Investment's Contributions in Terms of ROI and Qualitative Improvement

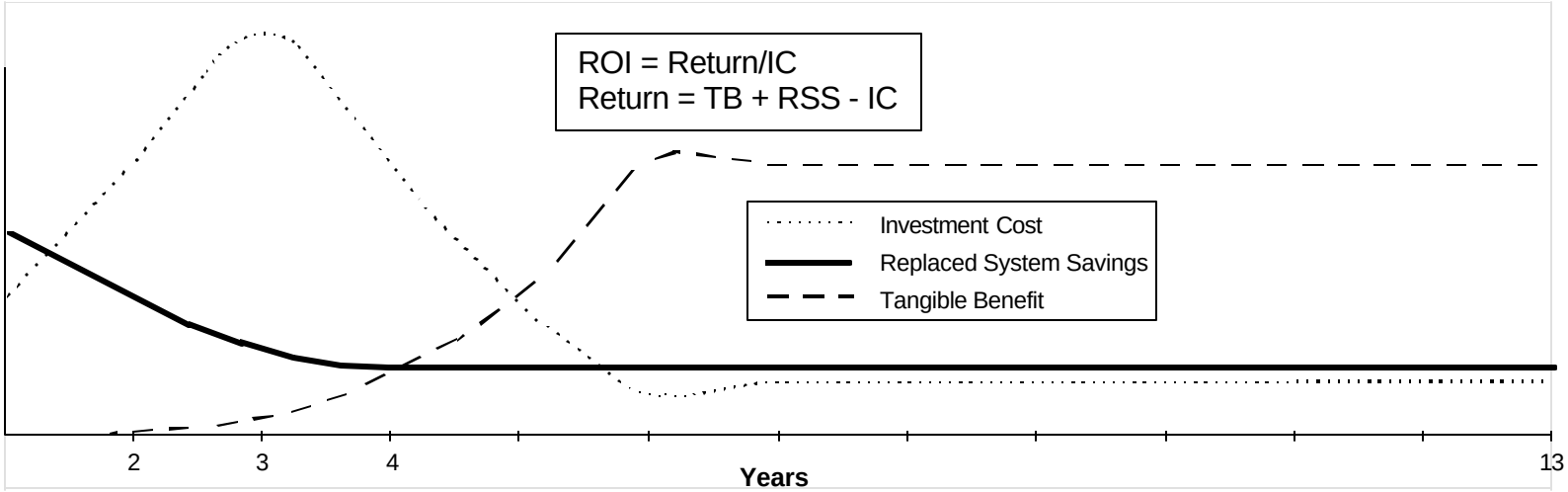


- **Return on Investment Ratio (ROI):** ROI is a purely quantitative measure based on the ratio of ***Return*** to ***Investment cost*** where:
  - *Return = Tangible benefit + Replaced system savings – Investment cost*
  - *Tangible benefit* = Estimated tangible, cost-based savings for the system life—includes effects of transition such as phase-in and post-training learning curve leading to lower cost savings in initial years
  - *Replaced system savings* = The operations and maintenance (O&M) costs avoided when an existing system is replaced, calculated from the old system's phase-out through the remainder of the investment
  - *Investment cost* = All costs associated with the investment, including development of the new system, switch-over and phase-out of any existing systems, and O&M of the new system through a standard system life

The FM and PS must complete benefit/cost-related information for the initiative within the appropriate initiative folders (i.e., *Descriptive Information, Financial Information, Selection Screening*). Benefit/Cost scoring criteria and rules are available on-line.

Cost/Benefit Criteria

CRITERIA		Wt	Scoring Rules -1	0	1	2
COST/BENEFIT	**Scoring Responsibility**	**2**				
ROI (Return on Investment Ratio)	Project Sponsor	3	• ROI < 2	• ROI > 2	• ROI > 4	• ROI > 6
ROI (Recovery Schedule/Payback Period)	Project Sponsor/ Program Manager	3	• The ROI (Return on Investment Ratio) occurs more than 4 years after fielding initial module or functional increment	• The ROI (Return on Investment Ratio) occurs within 4 years of fielding initial module or functional increment	• The ROI (Return on Investment Ratio) occurs within 3 years of fielding initial module or functional increment	• The ROI (Return on Investment Ratio) occurs within 2 years of fielding initial module or functional increment
ROI (Intangible)	Project Sponsor/ Program Manager, SIRMO, OCIO	2		• Some intangible returns exist, but they are not significant	• Intangible returns have significant impact on mission performance	

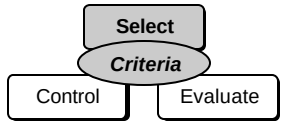


Tangible Benefit (TB):
Estimated tangible, cost-based savings for a 10-year system life—include effects of transition such as phase-in and post-training learning curve leading to lower cost savings in initial years

Replaced System Savings (RSS):
The operations and maintenance costs avoided when an existing system is replaced, calculated from the old system's phase-out through the remainder of the investment system's 10-year life

Investment Cost (IC):
All costs associated with investment including development of new system, switch-over, and phase-out of existing system(s)—includes O&M of new system through 10-year life

Cost/Benefit Criteria Capture the Investment's Contributions in Terms of ROI and Qualitative Improvement (continued)



- **ROI (Payback Period/Recovery Schedule):** Independent of the magnitude of the ROI, the sooner the ROI occurs, the better. The projected year in which the estimated ROI will occur should also determine when the investment will undergo a Post-Implementation Review.

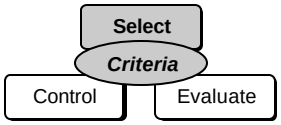
- **ROI (Intangible):** Most investments will have some benefits that cannot be quantified in terms of dollars, such as political impacts. In these cases they may be quantifiable in terms of functional performance (e.g., reduced rate of unmatched disbursements) or other improvements. In addition to the dollar-based returns, every effort should be made to offer measurable factors for inclusion into the ROI calculation for each investment.

Ranking an IT Investment

Multiplying a Criterion's Weight by the Corresponding Self-Assessment Score Yields the Final Weighted Value

Assessment Criteria		Possible Scoring Range				Example		Possible Weighted Scoring Range	
Mission: Category Weight = 3	**Weights**	**-1**	**0**	**1**	**2**	**Score**	**Weighted Score**	**Minimum**	**Maximum**
Mandatory Investment	3		X			0	0	0	6
Validation of Function	1			X		1	1	-1	1
Pre-Investment BPR	3		X			0	0	-3	3
Misison Support and Alignment to Strategic Goal	3			X		1	3	-3	6
Cross-Functional/Organizational Impact	1			X		1	1	-1	1
Performance Measures/Targets	3				X	2	6	-3	6
Total Score							11	-11	23
Category Weighted Score (Total Weighted Score x 3)							33	-33	69
Normalized Score (0-100 Scale)							**65**	0	100
Risk: Category Weight = 2									
Developer Track Record	3			X		1	3	-3	3
Endorsement/Ownership	3				X	2	6	-3	6
Dependency on Other Investments	2			X		1	2	-2	2
Pre-IOC Risk Mitigation Actions	2			X		1	2	-2	2
Flexible Acquisition Approach	2			X		1	2	-2	2
Adherence to USDA Architecture Standards/Security/Y2K	2			X		1	2	-2	2
Total Score							17	-14	17
Category Weighted Score							34	-28	34
Normalized Score (0-100 Scale)							**100**	0	100
Cost/Benefit: Category Weight = 2									
ROI (Return/Investment Ratio)	3				X	2	6	-3	6
ROI (Recovery Schedule)	3			X		1	3	-3	6
ROI (Intangible)	2			X		1	2	0	2
Total Score							11	-6	14
Category Weighted Score							22	-12	28
Normalized Score (0-100 Scale)							**85**	0	100
OVERALL SCORE							83	-73	131
OVERALL SCORE (Normalized)							**76**	0	100

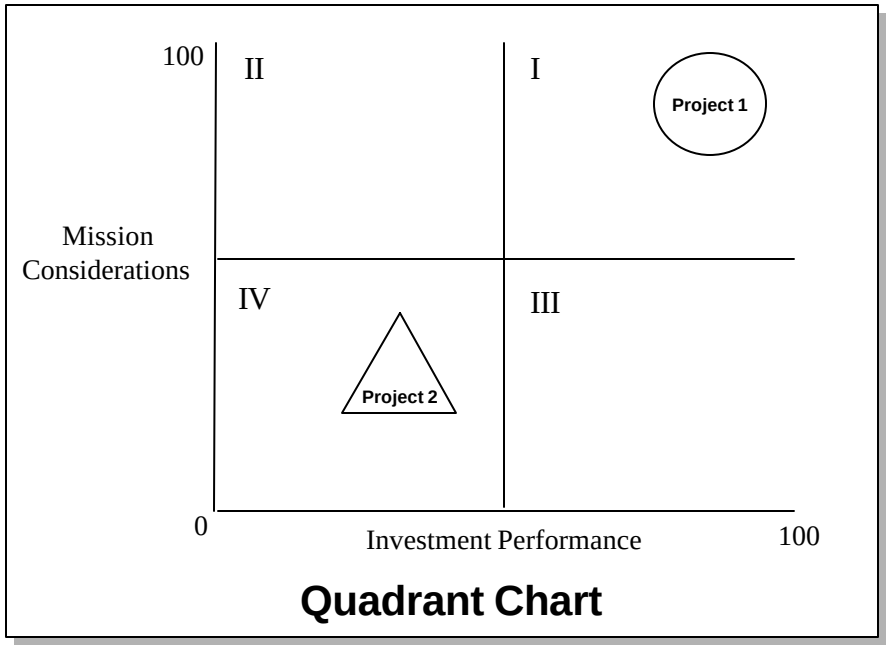
Criteria and Scoring Rules Provide a Framework for Comparing Investments But Should Be Used As Only One Input to Selecting Investments



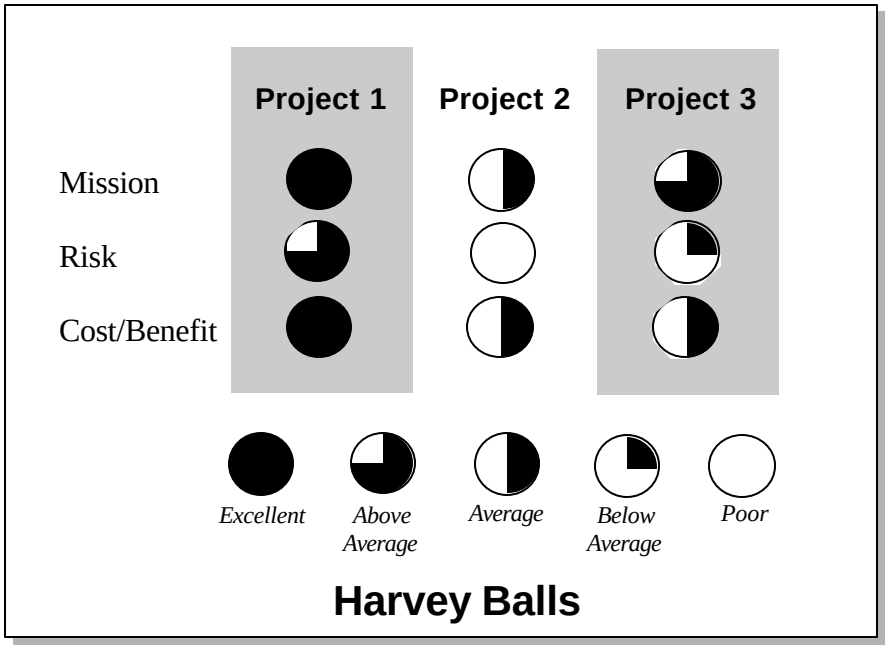
- The scoring process is not intended to be the sole basis for decision-making but rather one factor in the overall selection process
- Weighting of criteria allows decision makers to set priorities within the Department by putting higher weights on the most important criteria—as presently weighted, the criteria model places:
  - The greatest emphasis on the investment's alignment to strategy and mission (approximately 55%)
  - The next greatest emphasis is on risk and the likelihood that the investment will be carried out successfully (25%)
  - A slightly lower emphasis is on the cost/benefit from the investment as a result of government's role (20%)
- The ability to develop and refine precise, specific rules will be a significant factor in the success of this approach; weighting and scoring rules can be adjusted annually as experience with the model and process is gained
- In assigning scores, the assessor would be required to cite as much substantiating evidence as possible. For example, to take a score of 2 under "Endorsement/Ownership...," the assessor might fill in "MOA signed by

Although the Framework Accommodates Rank-Ordering Investments, Investment Decisions Should Be Made Using Additional Collaborative Techniques and Approaches

Presentation Approaches for Investment Scores



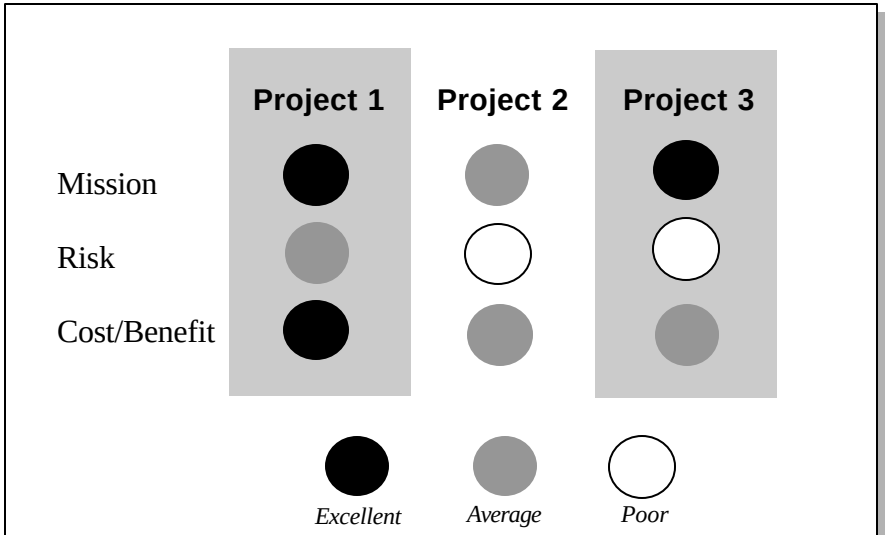
Quadrant Chart



Harvey Balls

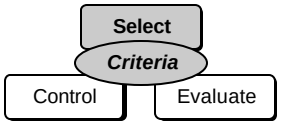
	Project 1	Project 2	Project 3
Mission	**A**	**B**	**B+**
Risk	**B-**	**F**	**D+**
Cost/Benefit	**A-**	**B**	**C**

Letter Grades



Stoplight Chart

The Scorecard Results Can be Represented in a Variety of Ways, Providing a Visual Means to Compare Competing Initiatives in the Organization's IT Portfolio



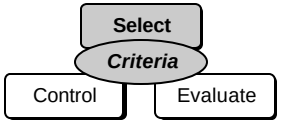
- Mapping the results clarifies portfolio strengths and weaknesses and offers relative comparison for major decision criteria
- Analyzing the results using **quadrant mapping** steers IT managers toward decisive action for each IT project
  - **Quadrant I Projects**: Reflect mission priorities, meet technical requirements, and represent acceptable risks

    Required Actions: Assign high priority, continue or initiate funding
  - **Quadrant II Projects**: Reflect mission priorities but currently fail to meet technical and ROI risk assessments

    Required Actions: Identify performance shortcomings and resolve prior to proceeding
  - **Quadrant III Projects:** Meet technical requirements, reveal demonstrated capabilities by supplier, but are not directly related to Agency Strategy

    Required Actions: Shift focus from technical merits and features to business needs and benefits
  - **Quadrant IV Projects:** Are not directly related to mission or overall business strategy, and present significant technical and organizational risks

    Required Actions: Terminate project, assign lowest priority, cut losses
- Other methods that could be used to view the results of a scored investment include the use of **harvey balls**, **grades**, and a **stoplight chart**

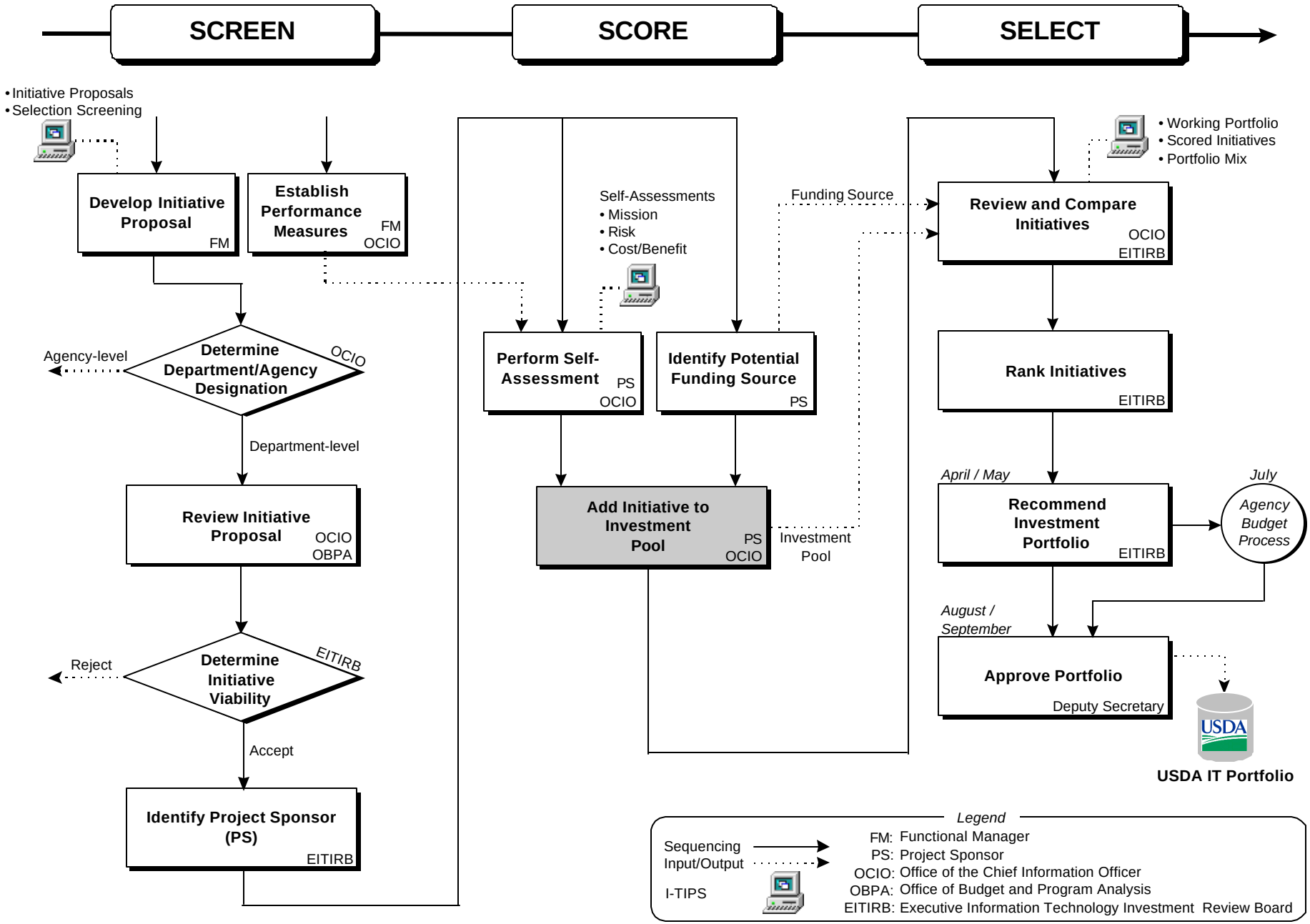


Criteria and Scoring Rules Are Consistent With OMB Guidance

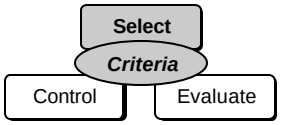
	Recommended Criteria	OMB[1]
Mission	Mandatory Requirement	
	Validation of Function	2
	Pre-investment BPR	3
	Mission Support/Alignment to Strategic Mission	1
	Cross-Functional/Organizational Impact	2
	Performance Measures/Targets	6
Risk	Developer Track Record	
	Endorsement/Ownership	6
	Dependency on Other Investments	
	Pre-IOC Risk Mitigation Action	3,6,7,8
	Flexible Acquisition Approach	8
	Adherence to USDA IT Architecture Standards/Security/Y2K	5
Cost/Benefit	ROI (Return on Investment Ratio)	4
	ROI (Recovery Schedule)	
	ROI (Intangible)	

[1] Note: Numbers correspond to the OMB Director Raines' Rules. Those criteria without numbers are not mentioned in the Raines' Rules.

USDA IT Capital Planning and Investment Control Process: *Select Phase*



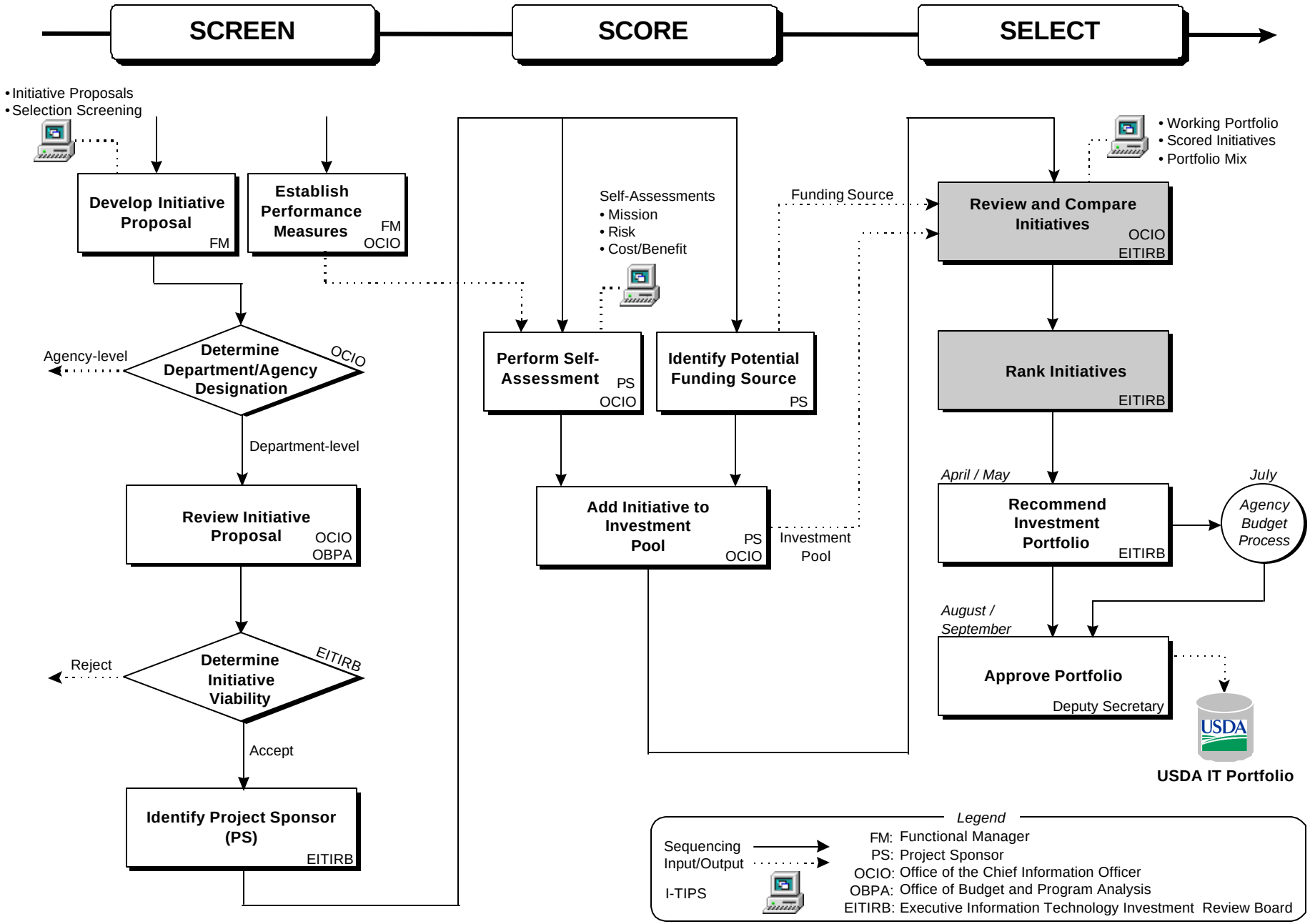
Following the Completion of the Self-Assessment the Project Sponsor Adds the Initiative to an Investment Pool



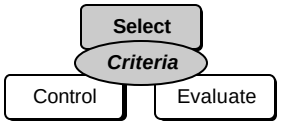
- After completing the self-assessment, the PS must decide whether to add the initiative to an investment pool and continue through the selection process; attempts should be made to address any weaknesses in the self-assessment before adding the initiative to an investment pool
- Once an initiative is added to an investment pool, the initiative is then competing for portfolio selection against other initiatives within the pool, and the information for the initiative is made public to those persons who have access to the investment pool
- The investment pool represents the collective group of initiatives to be considered for selection by the EITIRB
- Using the investment pool, the OCIO will work with Project Sponsors to provide initiative information to the EITIRB for reviewing and comparing the competing initiatives; the pool itself remains unchanged throughout this comparison, and the initiatives not selected remain in the pool for possible review in the future

To add an initiative that has completed the self-assessment to an investment pool(s), the PS clicks *Investment Pool* from within the initiative folder and selects the appropriate investment pool(s). The PS may add the initiative only to those investment pools for which he or she has permissions.

USDA IT Capital Planning and Investment Control Process: *Select Phase*



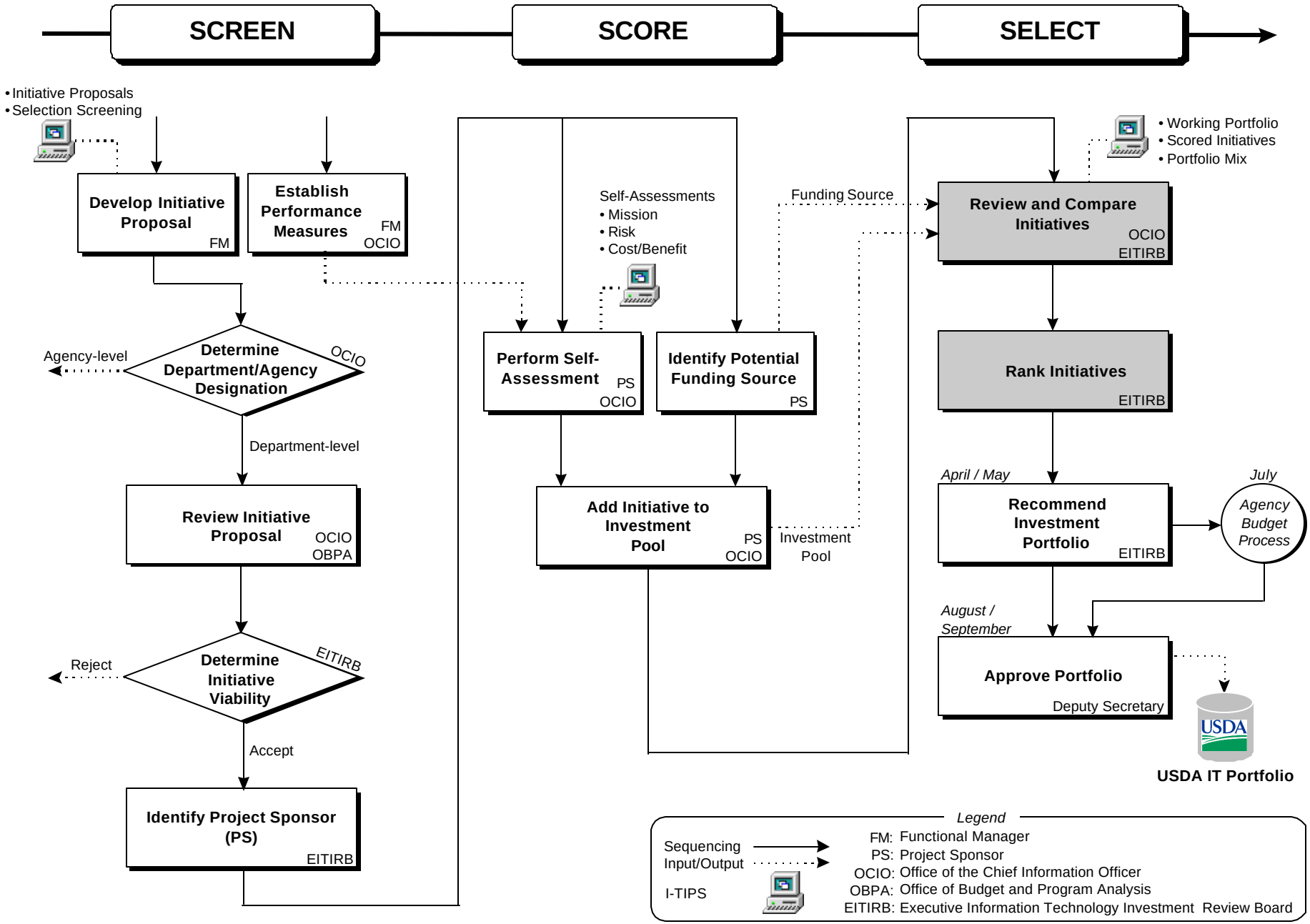
The Completed Self-Assessments Are One Input to Assist EITIRB Members in Reviewing, Comparing, and Contrasting Candidate Initiatives as a Collective Group of Investments, and Forming a Ranked Working Portfolio of the Department's IT Investments



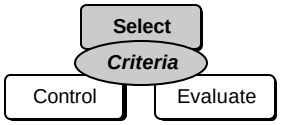
- Using the concepts of portfolio management, EITIRB members compare and contrast initiatives within the investment pool to determine relative positioning within a working portfolio
- In addition to the standard decision criteria used in the self-assessments, the EITIRB should also review the working portfolio to assess:
  - Overall Risk
  - Portfolio Classification Mix
  - Organizational Impact
- To facilitate discussion and consideration of the above areas for comparison, each project sponsor will provide a summary presentation to the EITIRB; the OCIO will coordinate these presentations

To select initiatives into a portfolio, select the *Portfolio Manager* from the left frame and open the *View/Select Initiatives* folder for the appropriate portfolio. Within the *View/Select Initiatives* folder, select the investment pool(s) to be considered and click *Show Initiatives* to view a list of competing initiatives. To compare initiatives, select several IT criteria (e.g., mission links, life-cycle cost, ROI) from three dropdown lists to view how the initiatives rate against the criteria selected. To create an overview of the current portfolio, click *Summary Report*. To allow other groups or users the ability to view or edit portfolio information for the initiative, click *Permissions* within the main portfolio folder.

USDA IT Capital Planning and Investment Control Process: *Select Phase*

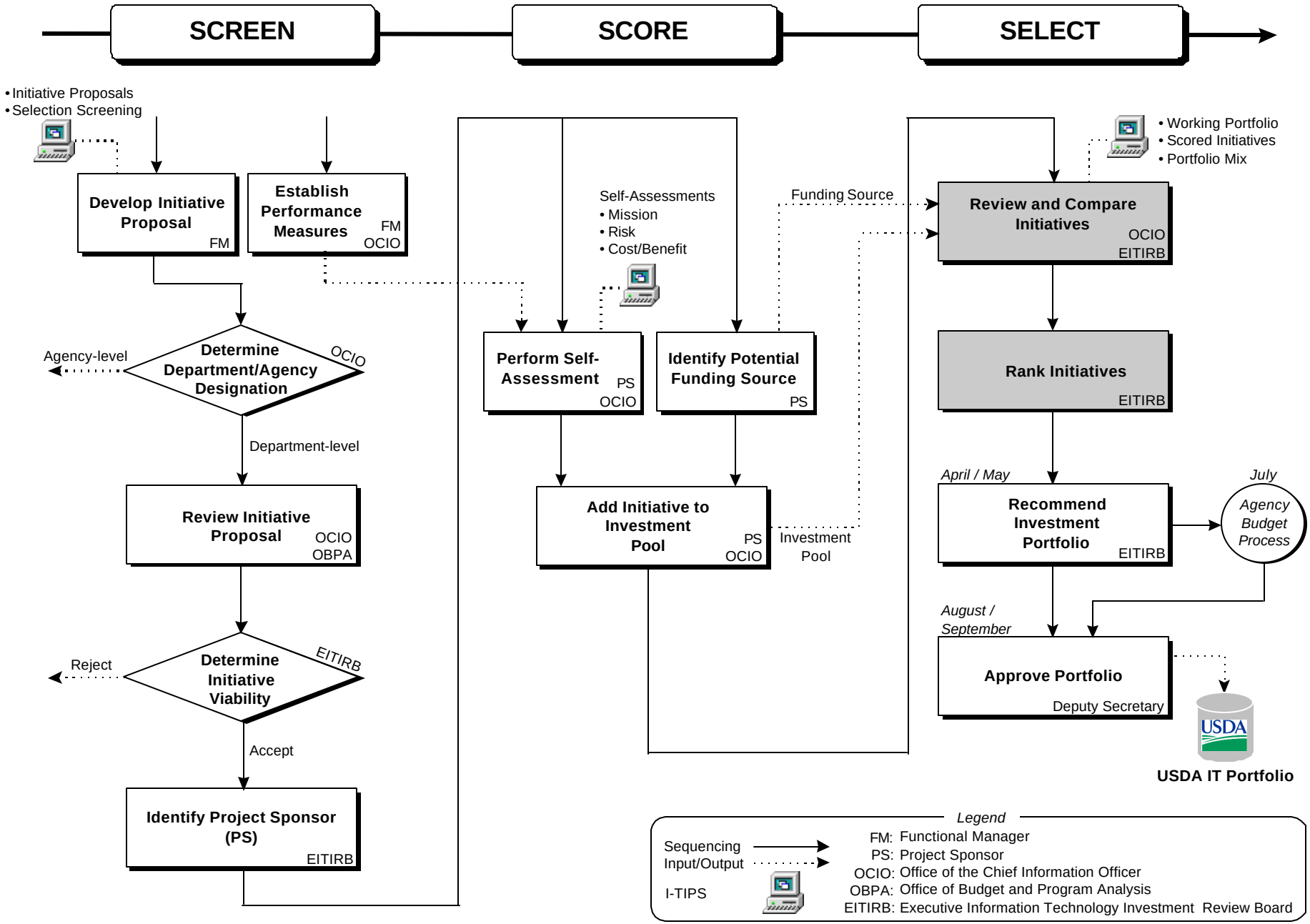


The EITIRB Should Establish an Acceptable Ratio of High, Medium, and Low Risk Projects, and Consider This Ratio to Develop an Appropriate Mix of IT Investments

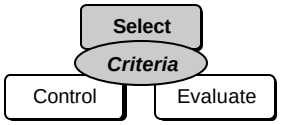


- Investments may fall into various risk categories:
  - Technical risk
  - Operational risk
  - Financial risk
  - Organizational risk
- In order to move the organization forward, the EITIRB will probably choose to invest in some projects with a high degree of risk (e.g. those that use leading edge technology); these projects require a risk mitigation plan to identify areas of concern and consider possible alternatives
- The EITIRB should develop a balanced portfolio; not all investments should be risky
- The EITIRB should consider the risk of not investing in a project

USDA IT Capital Planning and Investment Control Process: *Select Phase*

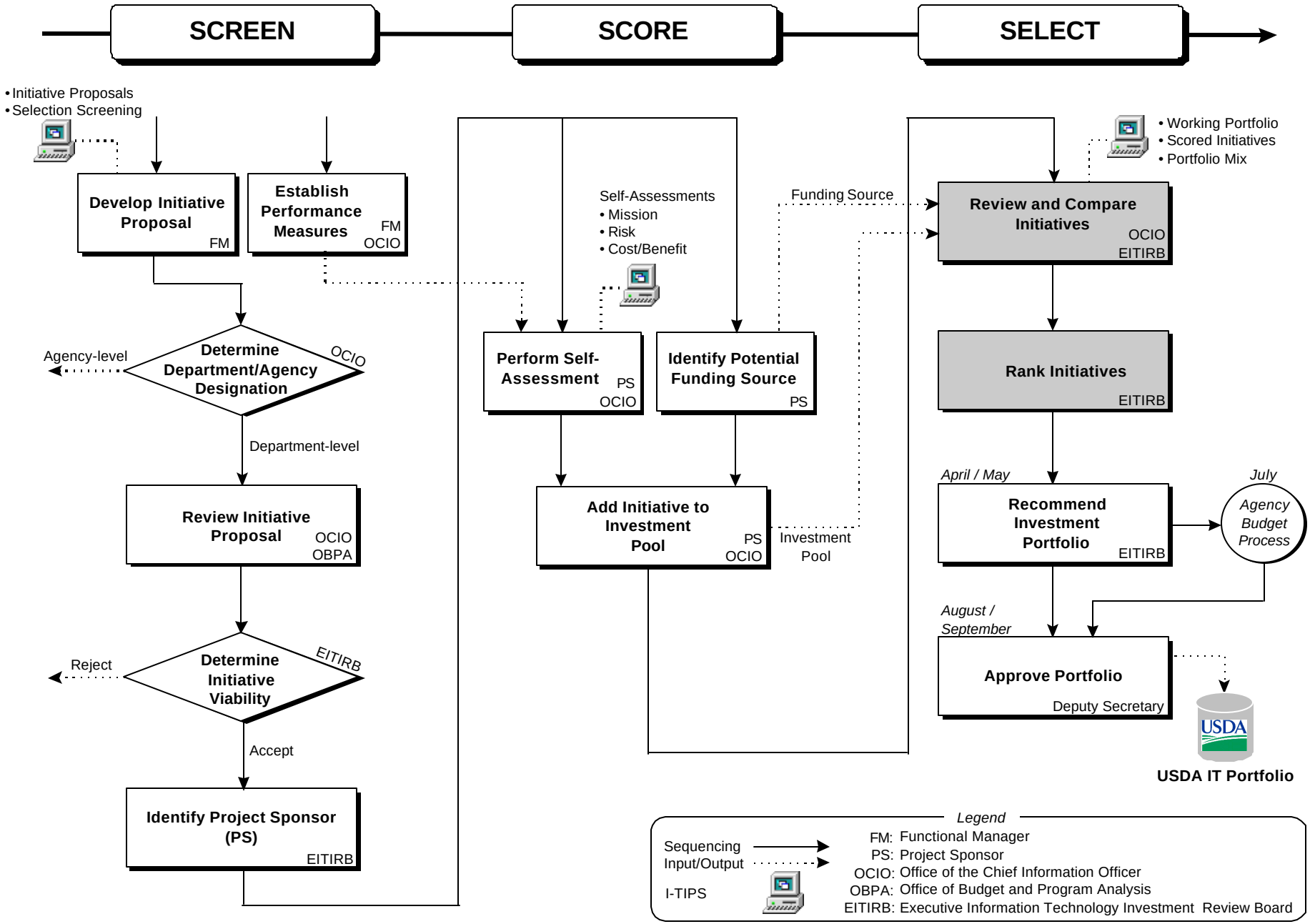


The EITIRB Should Determine the Ratio of Investments Classified as Program, Infrastructure, Administrative, or Research and Development

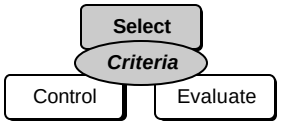


- Investments can be classified in various categories that might include:
  - **Program:** Investments that directly support the Department's mission (e.g. Rural Development's DLOS project)
  - **Infrastructure:** Those investments that affect the IT backbone of the Department (e.g., WAN/LAN, telecommunications, hardware, software)
  - **Administrative:** Investments that support the Department's administrative functions (e.g. personnel systems, financial systems)
  - **Research and Development:** Forward thinking projects that pursue technological innovation for the organization
- The EITIRB should consider investment type (e.g., administrative, program) when developing a balanced portfolio
  - The majority of investments will typically be program or mission-based designed to carry out the Department's mission
  - IT investments in each category, however, will be needed to support program investments

USDA IT Capital Planning and Investment Control Process: *Select Phase*



One of the EITIRB's Most Important Roles is to Identify, Review, and Recommend IT Investments With Respect to the Core Mission of USDA and the Impact Each Investment and the Portfolio as a Whole Will Have on the Organization



- Use broad understanding of the environment and the institutional considerations surrounding an investment; Board seeks to identify which investments will provide the "biggest bang for the buck"
- Consider public and congressional interest when making IT investment decisions
- Determine which investments are of considerable interest to the Department, Administrator, and Congress and reflect the strategic goals set forth by senior USDA staff
- Consider carefully ramifications of not investing in an initiative
- Evaluate mandated investments in terms of the overall pool of investments—must the investment be made now or can it be addressed in the future
- Consider whether the investment meets minimum legal requirements or goes beyond the legal mandate leading to unnecessary costs